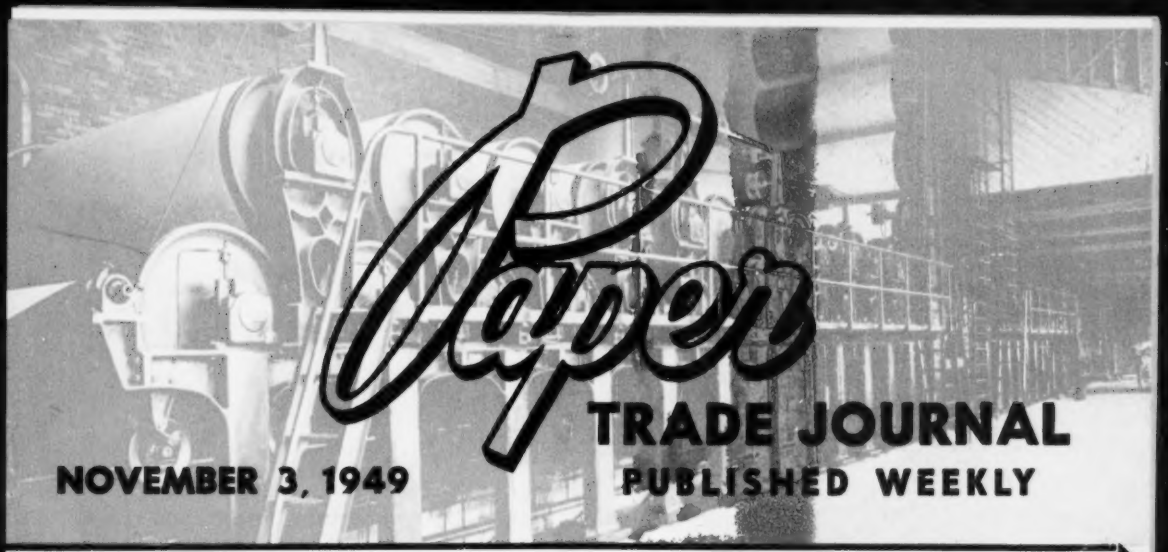

Paper TRADE JOURNAL

NOVEMBER 3, 1949 PUBLISHED WEEKLY

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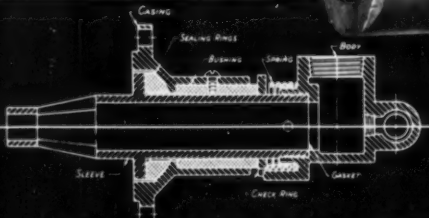

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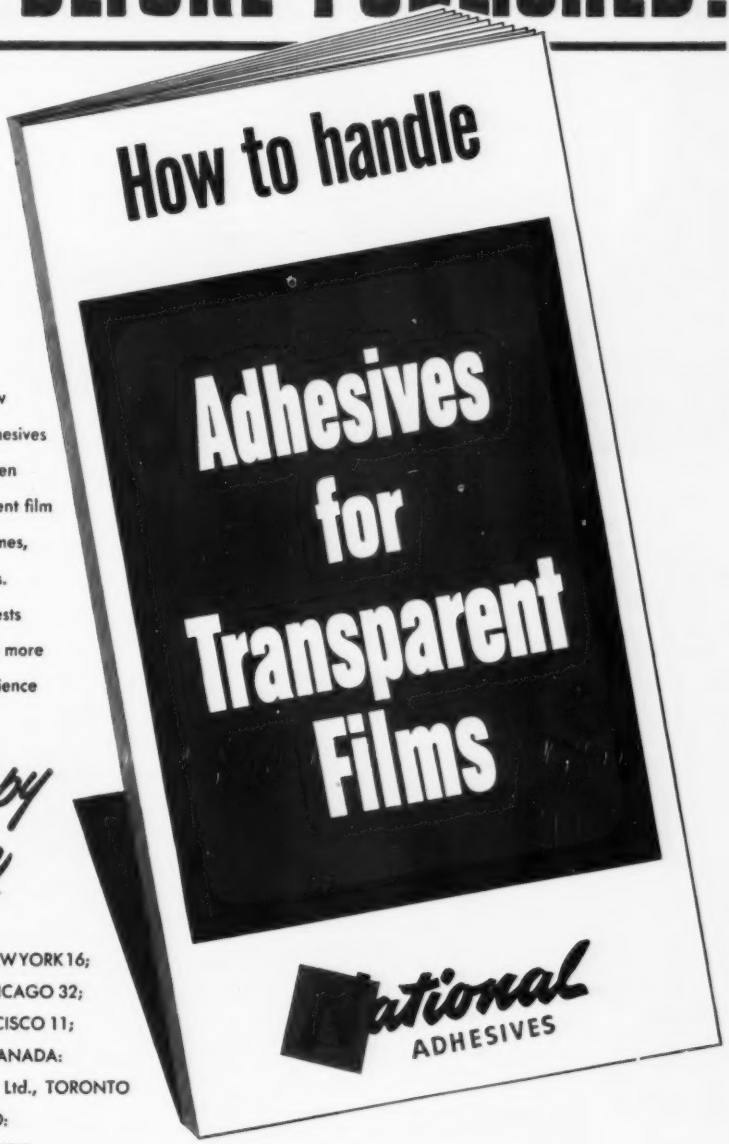

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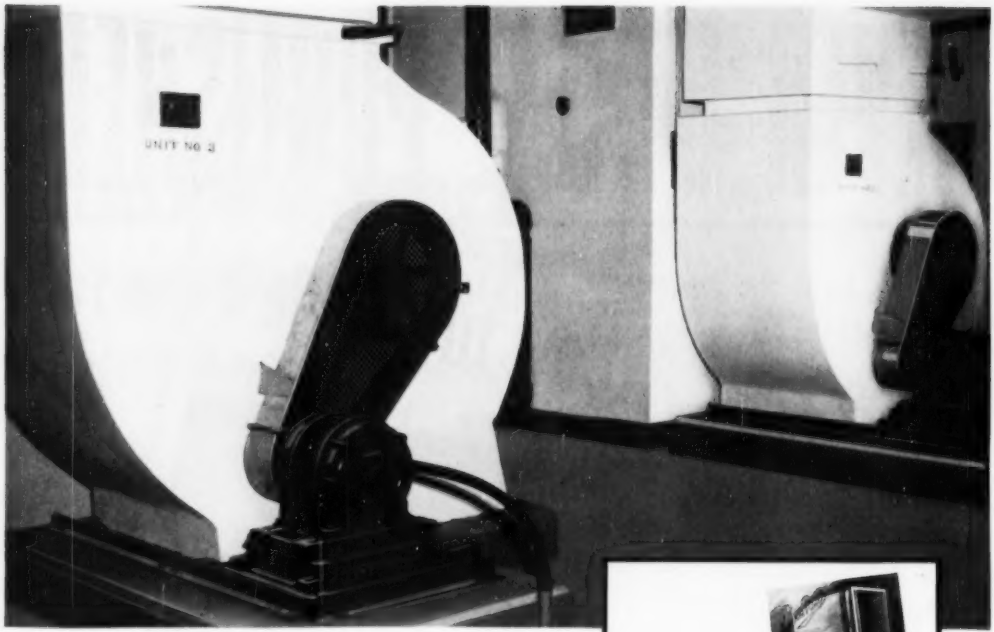

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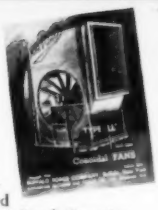

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Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, November 2, 1949.

From all reports, there is every reason to believe that for the paper and paperboard industry the end of the *inventory boomlet* is not in sight, this despite the opinion of the National Association of Purchasing Agents that for general business, the *boomlet* ended in October.

The higher level of overall production which emphasized the industry's upswing in August was sustained in September paper and paperboard output of 1,750,000 tons in 25 working days, as against 1,749,480 tons in August's 27 working days. Daily average production was 8 percent higher for the month, the APPA reports. Ratio of paper production to capacity for the month was 90.3, compared with 88.0 in August, and with 72.2 in July.

For the individual weeks in October, production ratios have been 97.2, 96.6, 97.9, and 101.1 for the week ended October 22, which exceeds comparative week of 1948.

Operating at 94.0 percent of capacity, paperboard gained 4,000 tons in new orders for the week ended October 22, and 34,000 tons as compared with 1948's week.

Production Indexes

Ratio of production of unbleached kraft paper to potential mill capacity for that product was 84.2 percent for the week ended October 22, compared with 90.4 percent for the preceding week, and with 96.6 for the corresponding week of last year.

Comparative ratios of U.S., paper and paperboard production to mill capacity, as reported by AP&PA, are:

	Oct. 22 1949	Oct. 15 1949	Oct. 23 1948	Oct. 25 1947	Oct. 26 1946
Paper	101.1	‡97.9	100.3	110.2	106.8
Paperboard	94.0	94.0	95.0	101.0	101.0

‡ Revised.

Paperboard Production (Tons)

	Oct. 22 1949	Oct. 15 1949	Oct. 23 1948
Production	206,400	208,450	189,737
New Orders	195,662	191,375	161,905
Unfilled Orders	411,834	422,552	359,739

Percent of Activity, Current, 94%; Year, 81%.

General Business Indexes

Index of general business activity for the week ended October 22 declined to 121.5 from 121.8 in the preceding week, compared with 151.2 in the corresponding week of 1948. Index of paperboard production eased to 189.2 from 189.5 in the preceding week, compared with 176.9 in the corresponding week of 1948.

PAPER AND PAPERBOARD TONNAGES—SEPTEMBER STATISTICS

	Production July	Production Aug.	Production Sept.	Orders Unshipped or Unmade	Stock on Hand
Printing & Similar	202,468	248,026	241,000	219,000	96,000
Fine Papers	66,603	87,825	85,000	46,500	89,900
Coarse Papers	187,236	226,621	233,000	145,000	87,000
Tissue Papers	82,633	94,179	93,500	n.a.	n.a.
Miscell. Papers	21,532	28,723	28,500	15,000	39,500
Paperboard	578,663	823,059	835,000	366,000	n.a.
Building Board	52,550	63,294	64,000	n.a.	n.a.
Building Paper	79,727	101,125	100,000	n.a.	n.a.
Newsprint, U.S.	76,808	76,988	70,000	n.a.	15,165

N.B. . . . n.a.: not available. Source: APPA, NSB.

Production and Basic Demand

Index of basic demand in August rose about 11 points to 170.2, the highest level since March, while the production index climbed 30 points to 171.2, approximately the same level as the index of basic demand, the APPA points out. From the above, it becomes clear that the 1949 recession has completed the downswing in production and that a new upward phase has commenced. Postwar readjustment of inventories, prices and buying policies has been generally completed, and many industries are in a strong position to meet the problems incident to the recent multiple devaluation of currencies, tariff cuts, and the current coal and steel strikes. While each of these subjects is potentially deflationary in its eventual effect, the immediate effects of the first two—devaluation and tariff cuts—are for various reasons not expected to be as great as the steel and coal strikes will be if permitted to run on indefinitely.

Newsprint Stocks Decline

Heavy September consumption of newsprint by all U.S. newspapers dropped consumer stocks by two days' supply—at projected rate of consumption — the NAC reports. U.S. consumers' stocks decreased by 171 tons in September to 781,396 tons or 48 days' supply, compared with 781,567 tons at the close of August, or 50 days' supply. For the average of all dailies reporting to the ANPA, stocks of newsprint on hand and in transit at the end of September, 1949, were reported as 45 days' supply, a decrease of seven days' from the end of August total.

U. S. Total Consumption

Total estimated U.S. consumption in September was 451,301 tons, an increase of 4.4 percent over September, 1948, which includes all kinds of uses of newsprint. U.S. supply for the month was composed of 434,030 tons from Canadian and U.S. mills and 17,100 tons imported from Europe.

North American Production

Total North American production was 484,098 tons, compared with 480,222 tons in September, 1948, and exceeding any September on record, the NSB reports.

U. S. NEWSPRINT IMPORTS (in short tons)

	August 1949	August 1948	Eight Months 1949	Eight Months 1948
Finland	11,345	16,928	106,932	89,094
Sweden	1,061	9,468	28,349	46,911
Norway	605	2,042	23,605	16,220
France	....	3,368	2,033	20,615
Austria	....	23	513	929
Netherlands	71	217	508	4,185
U. K.	3,532	....	31,036	27
Italy	....	22	....	666
Poland	....	....	....	1
Belgium	....	159	....	159
Overseas Total	16,614	32,227	192,976	178,807

Source: ANPA bulletin and ODC.

MARKET WOOD PULP STATISTICS, AUG. 1949

(U. S. Pulp Producers Assn.)
Thousands of Short Tons

	Production	Imports	Exports	New Supply	Consumption*	End of Month Inventory**
Groundwood	2	9	0	11	21	26
Blchd. Sulfite	64	30	2	92	69	119
Unblchd. Sulfite	12	25	4	33	44	100
Blchd. Sulfate	8	19	0	27	27	35
Unblchd. Sulfate	6	10	0	16	27	64
Soda	6	2	0	8	8	11

* At paper and board mills only.
** At pulp, paper and board mills only.

THIS DIGESTER TOOK CORROSION OFF THE MENU

Because it is lined with Armco Type 316 ELC Stainless Steel, this pulp digester should never suffer from corrosion due to welding effects. Extra-Low-Carbon content (.03%) stops intergranular corrosion near the welds by eliminating harmful carbide precipitation. Welded areas are as corrosion resistant as other parts of the equipment.

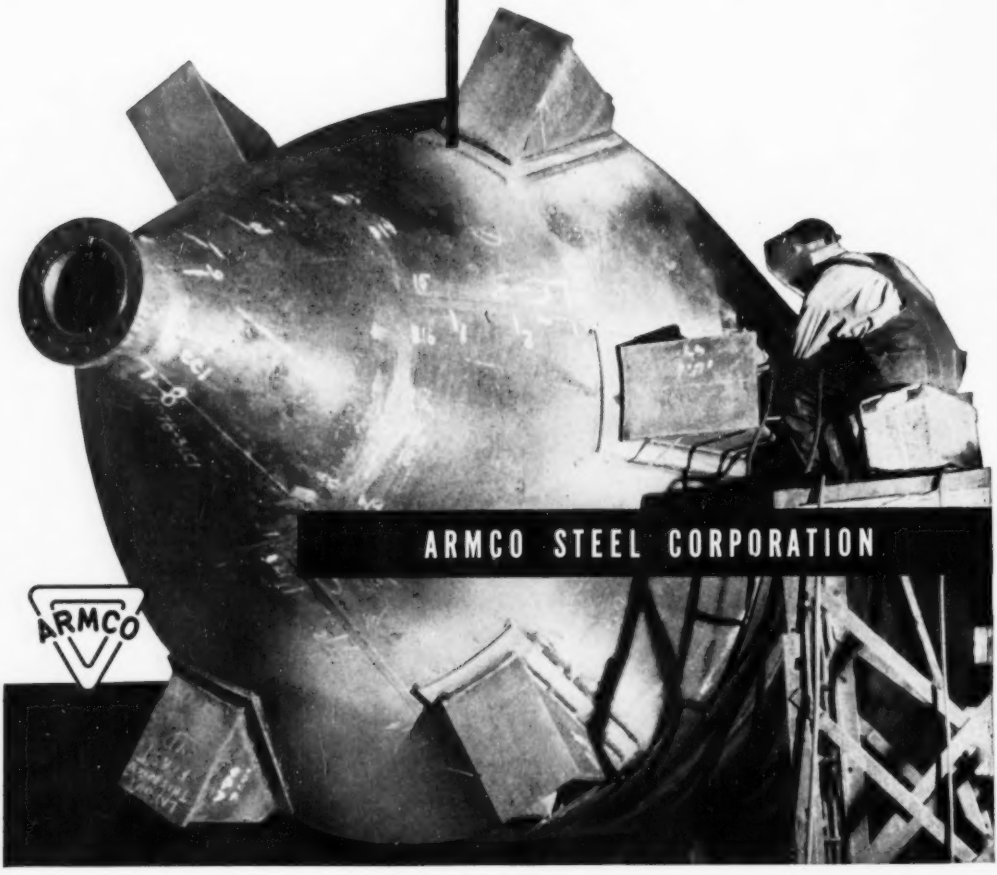
SAVES TWO WAYS

Costly annealing is usually unnecessary when you use Armco Type 304 ELC, 316 ELC or 317 ELC Stainless. This is important for heavy, bulky equipment, or when field welding is required. And these grades actually ***cost less*** than corresponding types stabilized with columbium or titanium.

DOES MANY JOBS

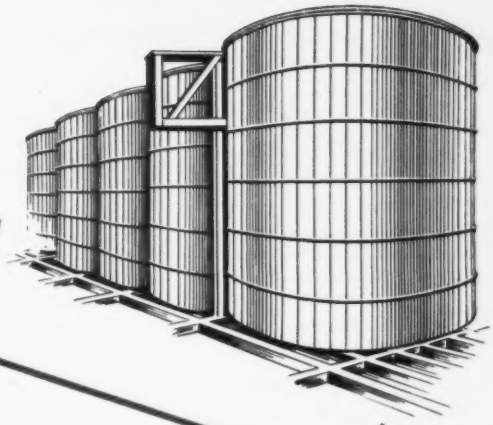
In corrosive applications at temperatures up to 800° F., Armco ELC is the logical choice for welded equipment. Specify it for acid bleachers, blow-pit bottoms, acid digesters, blow-pit target plates, inlet manifolds, screen plates and size cookers. You'll save money and add years to equipment.

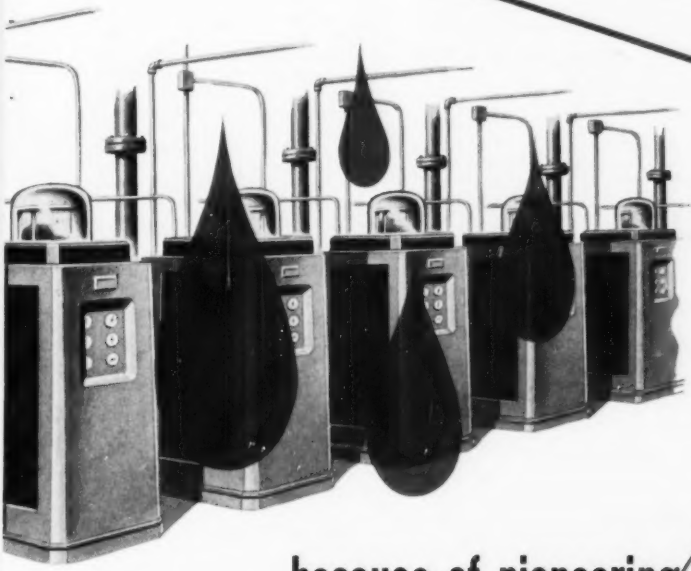
Write us direct, or ask your fabricator to look into the special advantages of Armco ELC Stainless. We can also provide complete data on other grades of Armco Stainless Steel sheets, strip, bars, plates and angles widely used in paper mill machinery. Armco Steel Corporation, 4209 Curtis St., Middletown, Ohio. Export: The Armco International Corporation.



as you were in 1900

Effective methods of purifying water supplies were virtually unknown at the turn of the century, as was efficiency in other fields such as textiles, paper, glass and soap-making





as you are today

Pure water and efficient sewage treatment are taken for granted in thousands of modern communities

. . . because of pioneering by Niagara Alkali

In 1900 practically no community was protected effectively against water-borne diseases. Today, every modern city and town is safeguarded by scientifically planned and operated water purification systems and sewage treatment plants.

Niagara Alkali Company, now approaching its 50th anniversary, helped to achieve this progress by pioneering the production and use in this country of liquid chlorine—for both water purification and sewage treatment. Niagara also helped improve paper, textiles, glass, soap and other products by pioneering the manufacture of caustic potash, carbonate of potash and caustic soda. Look to Niagara for pioneer quality and service in electro-chemicals.

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Paper TRADE JOURNAL

News of the Week

MILLS

Ambridge Answers Shafer

By CHARLES H. L. REID

TORONTO—After addressing a gathering of about 200 financial men here on October 26, D. W. Ambridge, president of the Abitibi Power & Paper Co., took occasion to reply to statements made in the U.S. Congress by Paul W. Shafer (Rep., Mich.) regarding Canadian newsprint manufacturers.

Mr. Shafer had said that Canadians were adding to their profits at the expense of U.S. printers and publishers and criticized the U.S. Department of State which, he said, was establishing reciprocal trade agreements at the expense of U.S. industry.

"United States consumers do not lose one cent as a result of devaluation of the Canadian dollar," Mr. Ambridge declared. "Apparently it is hard for some of these people to get over the fact that other people besides themselves are making money."

"They did not worry about our losses in the period when the Canadian industry was in bankruptcy," Mr. Ambridge continued.

"A little while back U.S. publishers were prepared to pay $150 to $160 per ton for newsprint in the black markets, whereas they have been able to purchase the Canadian product at the contract price of $100 per ton, and were satisfied until devaluation came.

"No mention is made by Mr. Shafer of the increased costs in U.S. dollars for freight, coal and sulphur Canadian newsprint companies have to pay as a result of devaluation.

"Devaluation was authorized by governments because U.S. dollars were needed in other countries to level up trade. Why nullify this objective by lowering the prices of the goods we sell to the U.S.," Mr. Ambridge asked.

Mr. Ambridge told the financial men that the policy of the Canadian newsprint industry in filling increased demand by speeding up existing mill capacity without building new mills and keeping price rises in reasonable relation to rising costs has been fully vindicated. As a consequence, he said, there is no possibility of the Canadian newsprint industry facing another decade of disaster such as that which followed over-expansion after World War I.

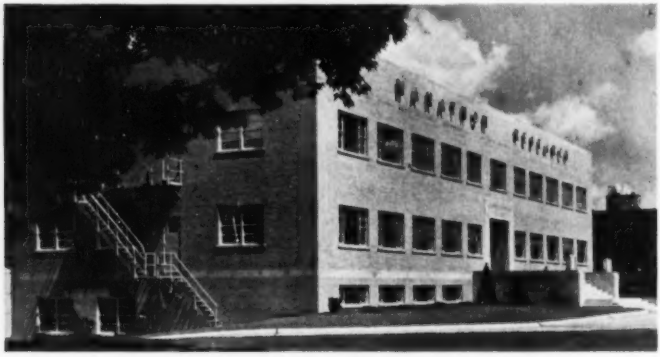
The industry's funded debt is lower, proportionately, than in 1929 when the industry stood on the brink of disaster; the U.S. market, in size and per capita consumption, has grown up to the capacity of the Canadian industry; and there are no desirable, accessible forest areas remaining for license for prospective newsprint mill builders.

U.S. publishers, declared Mr. Ambridge, now admitted their requirements were being supplied to the full, which was implicit vindication of the Canadian industry's policy of making existing mills more productive. He predicted that when Britain and Australia and South America come to the point where they find they can not run their economies without Canadian paper, the Canadian industry will be able to absorb this demand in the same way it absorbed the increased demand from the U.S.

Some of the dangers to be faced, Mr. Ambridge declared, were: That the industry would not be enabled to devote a proper proportion of its energies to forest fire prevention; that not enough would be spent on research; and that the industry would fail to keep its processes and equipment up-to-date so as to remain competitive with outside manufacturers. Every Canadian paper company is taking steps to meet these dangers, and he had no doubt whatever they would be overcome.

Mr. Ambridge pointed out that his own company, with eight mills, five power plants developing almost 100,000 h.p., and 30,000 square miles of timber limits, produced in 1948 a total of 680,049 tons of newsprint, 106,729 tons of pulp, and 36,161 tons of paperboard, while its subsidiary, Provincial Paper, Ltd., with four mills, produced 68,361 tons of fine papers. Combined sales in 1948 amounted to $88,000,000.

Since coming out of a 14-year receivership in May, 1946, the company had spent $20,000,000 on improving the mechanical condition of existing equipment, without building a single paper machine or new mill, so that when competitive conditions were restored after the postwar boom it will be in a position to earn dividends for its stockholders. This has not fully covered the amount of depreciation occurring during the 14 years of receivership, when no money to speak of had been spent to make up for wear and tear. But it had been judged preferable to spend this money rather than let the properties rot in order to pay dividends during the boom years. He felt that from 1950 on, the company would be able to remain abreast



MARATHON OPENS CENTRAL RESEARCH LAB.

D. C. Everest, president of the Marathon Corp., Rothschild, Wis., reports the opening of the firm's new central research laboratory in that city . . .Dr. Allen Abrams, Vice President in charge of Research, states that the new laboratory will be used for both fundamental and applied research, particularly relating to wood, pulp, paper, and lignin products . . . Research investigations relating to converted products will continue at Menasha under the direction of Dr. D. W. Davis. G. J. Brabender is assistant to Dr. Abrams and J. R. Salvesen is director of research for the Central Laboratory . . . The laboratory building has three floors, each containing approximately 8,000 square feet. The first floor houses the constant temperature and humidity room, a machine shop, storage facilities and two pilot plants, of which one is two floors in height . . . On the second, or main floor, are the conference room library, offices and two laboratories . . . The third floor has three offices and a storeroom . . . Remaining space is occupied by laboratories dealing with organic, analytical, physical and biological chemistry.

of new developments and keep its mills in shape by using no more on the average than its depreciation reserve.

"Wealth of a Nation," a motion picture in color, depicting Abitibi's operations, was shown the financial men.

Mill Sale No Profit Threat

TORONTO—Brompton Pulp & Paper Co.'s sale of its mill and power sites at Bromptonville, Que., for $725,000 is not expected to have any sizable effect on company earnings, a company official informed the financial press.

The plant, sold to the city of Sherbrooke, had been closed since May 28. The company had been producing newsprint there for the *Philadelphia Bulletin*, but with better newsprint supply conditions, it was decided to shut down the operations because costs were considered too high.

In addition to its 17,000-ton annual capacity of newsprint at Bromptonville, the plant had an annual groundwood capacity of 15,000 tons. The company has 25,500 tons groundwood capacity at Nigigon and Red Lake to handle any business in this particular pulp.

The city plans to make use of the company's power sites on the St. Francis River with a potential of approximately 15,000 h.p. The municipal authorities had been looking for a possible new power site to offset shortages. A Sherbrooke report states that if the purchase is approved by ratepayers (vote is expected in about a month), the city intends to install generators and other equipment needed to convert the existing plant from a waterwheel to a hydroelectric generating plant.

The city hopes to sell the mill itself, thereby reducing the net expenditures necessary to develop the power site. A city survey indicated that an additional 10,000 h.p. could be added to the city's electricity supply within a few months with an expenditure of $850,000 for new equipment and for renovation of the dam and powerhouse, it is reported.

$250,000 Oswego Tax Rebate

FULTON, N.Y. — The Oswego Falls Corp., has received an excess profits tax rebate of $250,917 from the Bureau of Internal Revenue.

The refund was among the ten largest rebates disclosed by the Internal Revenue Bureau after readjustment of excess profits bases.

The Bureau stated that 1,106 corporations had been granted excess profits tax cancellations or refunds totaling $22,565,466. The periods covered extended to 1940.

Consolidate Book Match Operations

NEW YORK — Consolidation of its widely scattered book match operation into a single department to be located at its Springfield, Mass., plant is disclosed by the Diamond Match Co. The move merges the book match sales office and artwork department with the production facilities of the company in the Springfield factory.

The company has named the following executives for the new department: David Rawle, manager; William M. Howard, sales manager; D. B. Lundy, office manager; A. E. Winkler, art department supervisor; and Frank J. Church, assistant art department supervisor.

C. H. Sickmon, present manager of the Springfield plant, will continue in that capacity.

Leon N. Brown, formerly of Oswego, is assistant manager of the Springfield plant.

Armstrong Directors Meet At Fulton

FULTON, N. Y. — A meeting of the board of directors of the Armstrong Cork Co., was held at the Arrowhead plant, Battle Island, on October 26. Prior to the meeting they visited the new office building and looked over additional machinery recently installed in the plant.

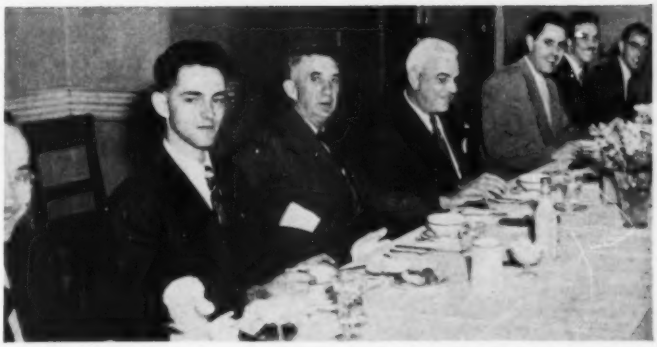
Board members were welcomed by Walter Mitchell, plant manager. Among officials attending were: H. W. Prentis, Jr., president; Kenneth Bates, vice-president; C. Dudley Armstrong, vice-president and secretary; C. N. Painter, vice-president and general manager; H. R. Beck, vice-president and general manager of the building materials division; Joseph C. Feagley, vice-president and general manager of the glass and closure division; F. E. Stevens, vice-president and general manager of the industrial division; Keith Powlison, vice-president and comptroller; C. F. Hawker, vice-president in charge of manufacture; Edmund Claxton, research director; M. J. Warnock, treasurer; William H. Worrilow, Frank B. Ingersoll and Charles L. McCune. Others in the group included F. L. Suter, former director, and Daniel Rhoads, assistant to the president.

Carlson to Ukiah for Masonite

UKIAH, Calif.—Bernhard M. Carlson has been named industrial relations manager of the Masonite Corp., wood fiber hardboard plant., under construction here. E. T. F. Wohlenberg, local general manager, said Mr. Carlson, whose appointment became effective October 1, had gone to the company's Laurel, Miss., plant, where he would remain for several weeks.

National's No. 1 Machine Resumes

CARTHAGE, N. Y.—National Paper Products Co. again has its No. 1 machine, crippled by fire on October 17, running following ten hours of repairs.



PACIFIC MILLS, LTD. CULTIVATES UNIVERSITY STUDENTS

As part of a program to interest university men in the pulp and paper industry as a career, and to enable management and students to become better acquainted, Pacific Mills, Ltd., Ocean Falls, B.C., division, entertained approximately 50 summer students at a banquet in Martin Inn, prior to their return to university for the fall term . . . J. A. Young, first vice-president and treasurer, gave an excellent address on the interest of the industry in university students and the careers it offers them, particularly in British Columbia . . . R. R. Edwards, assistant resident manager, spoke prior to Mr. Young, detailing plans of the company for graduates and undergraduates . . . This year the majority of summer students were placed in work in line with their studies and in the future, additional effort will be made for proper selection and placement with particular attention to third-year students. Also, it is planned to have a banquet or some other method of getting acquainted, shortly after their arrival for the summer months. Through this policy it is hoped to give these boys a close working knowledge of the industry and to stimulate their interest in a career in pulp and paper following graduation. In addition, it enables management and supervisors to assess each individual and acquire knowledge of his potentialities should he plan on entering the organization in the future . . . E. W. Campbell, personnel director, who was chairman for the evening, welcomed the students and their supervisors and introduced the guest speakers . . . The film, "Fresh and Good Looking" was shown to conclude the evening . . . the program elicited many favorable comments from the students and it is evident that their interest and enthusiasm have been aroused . . . From left to right in picture are: J. D. Shaw, student; R. Palmer, student; Mr. Young; Mr. Campbell; Mr. Edwards; A. W. Taylor, student; and H. L. Disbrow, student.

Youngman Spikes Indifference Myth

PORTLAND, Ore. — F. N. Youngman, vice-president of the Crown Zellerbach Corp., went to the defense of his industry on October 20 to brand false any ideas that the paper people are doing nothing about pollution in the Willamette River.

He gave his side when he took the stage before a group of sportsmen and fishermen.

Said Mr. Youngman, "We're never going to reach the point where the Willamette River will be safe to swim in or to drink from, but it can be cleaned up and the pulp and paper industry is paying its way to solve the problem."

"The Willamette can't be reserved purely for recreation and pleasure," Mr. Youngman declared. "Such factors as shipping lumber and other river industries, all of which cause pollution, are necessary."

He said C-Z and other paper and pulp firms are spending thousands of dollars each year on plant research and grants to universities to try to find a solution to the problem.

"We've been at it for more than 50 years," Mr. Youngman added. "It appears that the only possible recourse may be to take to burning the waste products of the mills."

Dr. David Charlton, state president of the Izaac Walton League, in his speech said, "Research frequently is used as a delaying mechanism."

"The cost of treating wastes is a legitimate cost of production," he argued, and said that the pulp and paper industry ought to reconcile itself to what every housewife knows —she must pay to have her garbage hauled away.

Mersey Planning 20th Anniversary

LIVERPOOL, N. S.—Twenty years of successful business and first-rate relations between industry and the town will be celebrated on November 27 when the Mersey Paper Co., stages its big anniversary program.

Guests of honor at the big show will be the 180 employes scheduled to receive 20-year buttons for continuous service since the opening of the plant.

Participants in the celebration will include employes and their families, civic officials, and residents of Liverpool and surrounding districts. Included in the festivities will be "open house" at the plant from November 22-24.

Sensenbrenner on Scholarship Comm.

MILWAUKEE—F. J. Sensenbrenner of Neenah, Wis.; J. Martin Klotsche and Wm. Grede, both of Milwaukee, have been named to the scholarship committee of the Allis-Chalmers Mfg. Co., by Walter Geist, the firm's president.

Mr. Sensenbrenner, a past-president of the Kimberly Clark Corp., is now a director of the firm. He is a member of the board of regents of the University of Wisconsin, a trustee of Marquette University, Milwaukee, and Lawrence College, Appleton, and a member of the lay advisory committee of St. Norbert's College in West De Pere.

Mr. Klotsche is president of Milwaukee State Teachers College and Mr. Grede is president of Grede Foundries. He is also past president of the Wisconsin Mfr's., Ass'n., and a director of the NAM.

Under the Allis-Chalmers plan the committee will choose five scholarship winners each year from among children of the firm's employes who are eligible for the awards.

The grant will be for $500 and will aid the winners in financing their way through any accredited college or university of their choice. When the plan is in full operation it is expected that a maximum of 20 scholarships will be in effect at a cost of $10,000 a year.

Gardner's Johnson to FPBA of A

MIDDLETOWN, Ohio—Gardner Board & Carton Co., has named William R. Johnson of Manhasset, L.I., chief industrial engineer, succeeding George I. Brown of Wyoming, who is being loaned by Gardner to the Folding Paper Box Ass'n., of America to serve as a consultant to the Association, with headquarters in Chicago.

Mr. Johnson joined Gardner on September 19 and has been familiarizing himself with manufacturing operations and techniques of the paper industry since that time. Immediately prior to coming to Middletown, he was manager of the New York branch of the American Bosch Corp. Previously he was assistant to the vice-president in charge of manufacturing, and manager of the standards department for the same company. From 1934 to 1944 Mr. Johnson served in various supervisory capacities with General Electric Co.

"The Association has been seeking a highly qualified industrial engineer from among its member companies to augment its consulting staff on a temporary basis for the purpose of dealing with a complex industrial engineering problem faced by the entire folding box industry," Colin Gardner 3d, said.

100 Accident-Free Days

OCEAN FALLS, B. C.—Pacific Mills, Ltd., recently achieved 100 accident-free days at its local plant, and the record is still climbing. Departmental safety meetings are held regularly and safety suggestions followed up as soon as possible. Movies are shown and safety graphs kept to maintain interest. Awards are made to each department when its employes have completed 5,000 shifts without an accident which would bring compensation. St. John Ambulance classes are in session and the company has installed a sight screener to catch eye defects of employes before they become a menace to themselves and fellow workers.

Correcting a Possible Misapprehension

TORONTO—A letter from A. George Jacques, general manager of the St. Lawrence Paper Mills Co., Ltd., Montreal, says: "The news item in the public press covering installation of a new vacuum pump on our No. 3 paper machine was a bit confusing. The facts of the matter are that we installed a large reciprocating vacuum pump to supply vacuum for the couch and both suction presses. The pump is a two-cylinder reciprocating vacuum pump one cylinder of which is vertical and the other horizontal, both pistons being driven from the same crank shaft. The vertical cylinder takes care of the couch vacuum and the horizontal cylinder takes care of the two press rolls. The flat boxes are connected to a small rotary pump entirely separate from the main installation.

"The statement that the pump is the first of its kind installed in a North American paper plant does not mean that it is the first reciprocating vacuum pump installed, but I do think it is the first of this design in which the two cylinders are not of the same size. The installation appears to be working satisfactorily but it will, of course, be many months before its testing period is completed."

The installation was made by Canadian Ingersoll-Rand Co.

Geo. Graham Enlightens Secretaries

MENASHA, Wis. — The activities of the Institute of Paper Chemistry at Appleton were outlined by George Graham, coordinator of the institute, in a talk before the Secretaries Club of the Marathon Corp., on October 24.

Founded 20 years ago, the institute has a three-fold program: to educate for the paper industry, to conduct research and form a library, the speaker pointed out.

He explained some of the services rendered by the institute to its 105 member companies. The institute, among other things, evaluates instruments, checks bacteria content of paper, especially types used in food packaging. Since 1943 it has concerned itself with stream pollution.

It is the only institute of its kind in the world, Mr. Graham said. Visitors come from all parts of the world to visit it.

The speaker was introduced by Miss Connie Jorgensen, chairman of the October Program Committee. Germaine Faust, Mrs. Cora Dora Neeck, Miss Joyce Meidam and Miss Nell Webster assisted with the arrangements for the meeting.

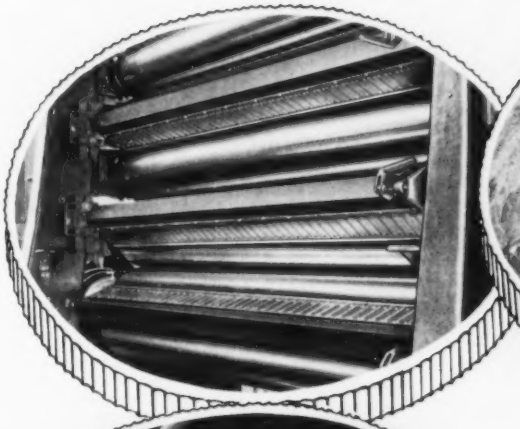
Chances Boost Chest Fund's Chances

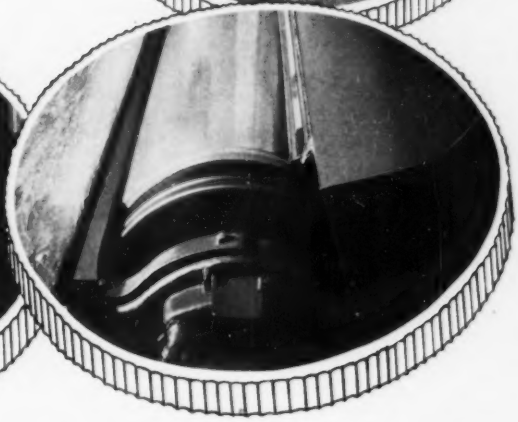
PORT ANGELES, Wash. — To boost contributions to the Community Chest Fund employes of Fibreboard Products, Inc., were given one chance to win one of three cash prizes in the respective amounts of $12.50, $7.50 and $5 for each dollar contributed to the Chest.

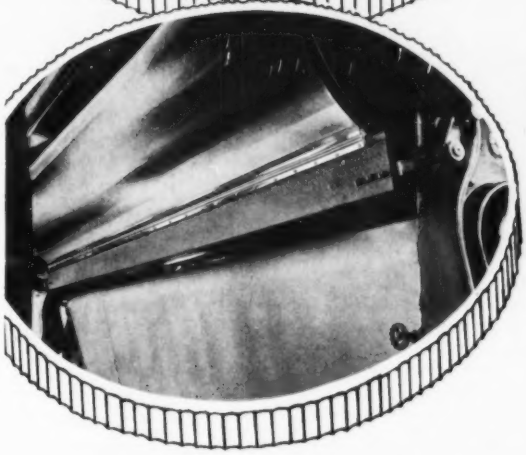
Stevens So. Hadley Falls Mill Resumes

SOUTH HADLEY FALLS, Mass. — The Stevens Paper Co., mill here resumed operations on a reduced scale late in October after a three-month shutdown.

Minor Expenditure







Major Improvement

VICKERY DOCTORS

do not require the kind of investment that calls for a meeting of the Board of Directors but they are likely to make a big difference in the productivity and profitability of the paper machine.

Vickery Doctors are carefully laid out and engineered for each individual roll. Ask us for layouts and estimates.

BIRD MACHINE COMPANY

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Cafeteria Feeding Problem Solution

FRANKLIN RIVER, B. C.—Installation of a $12,000 cafeteria has been completed by Bloedel Stewart & Welch, Ltd., at Camp A. The cafeteria is being used as a pilot for an experiment which may prove the solution for boarding men at scene of industrial operations. It is capable of handling 300 men in from 15 to 20 minutes. Reports indicate that the men are taking favorably to the plan.

The provision of food and rooms has been turned over to the Dominion Catering Service. The price of the meals includes payment for the cost of rooming. The men are issued a book of coupons with a value of $10.20. When they have selected their food, they pass their book to a cashier who totals their bill and clips sufficient coupons to cover the amount.

The individual is issued a slip to enable him to keep a check on the cost of his food; the catering company turns the clipped coupons over to Bloedel Stewart & Welch, Ltd., for reimbursement.

KVP Men at Bakers' Exposition

KALAMAZOO — Kalamazoo Vegetable Parchment Co's., new Kalakote Breadwrapper, among other papers in the KVP line, was displayed at the 1949 Baking Industry Exposition in Atlantic City, October 14-20.

Attending the display in the KVP booth were Glenn Stewart, advertising manager, and Reginald Hills, bread wrapper sales manager. Also on hand for periods during the convention were W. E. Swan and W. E. Martin of the KVP Philadelphia sales office; Grant Eustis, Ray Case, and John Creager of the Baltimore sales office; and George Spies of the New York sales office.

Camp Adding 226-Inch Machine

FRANKLIN, Va. — J. L. Camp, Jr., president of the Camp Mfg., Co., reports completion of plans for the installation of a new high speed 226-inch Fourdrinier paper machine for the manufacture of lightweight unbleached kraft papers. The machine, which is scheduled for October, 1950, will complement the present 212-inch machine to be run on heavyweight kraft paper and the 80-inch machine to be run on kraft specialties now in operation, and will provide an outlet for surplus pulp producing capacity now available here.

Fire Drill Shows Real Speed

NEENAH, Wis.—The main office personnel of Kimberly-Clark Corp., 459 persons, were evacuated in less than two minutes in a fire drill on October 13. Considerable planning and drilling is needed for evacuating workers from the 19 plant areas and a leader has been named in each. Alternate routes are laid out to assure a maximum of safety.

Kimberly-Clark installed an alarm system a couple of years ago so that one unit can set off all the alarm bells as well as off the ventilating fans to keep smoke from blowing into various sections. During the first drill of the main office when the alarm system was used workers were moved out of the building in a little over three minutes.

H. W. Clifford, vice-president, and J. Frederick Hunt, secretary-treasurer, appeared pleased with the speed of evacuation after watching the drill.

Civic-Minded KVP Execs.

PARCHMENT, Mich.—Three officials of the Kalamazoo Vegetable Parchment Co. have filed petitions as candidates to seek election to the City of Parchment's five-man city commission. In all, six candidates had qualified before the October 19 deadline for filing petitions.

Parchment company men in the race are C. Forrest Christy, vice-president in charge of sales, presently mayor of the city; John H. Sinclair, director of health and welfare, incumbent; and Reginald K. Hills, sales manager for the bread wrapper division.

Schroeder Addresses F. & E. Club

GLENS FALLS, N. Y.—"The perpetuation of the American system of free enterprise depends to a great extent on the production efficiency which it can attain through the workers who labor in the various industries throughout the nation," A. J. Schroeder II told the Foremen's and Executives' Club of the YMCA at its first fall meeting in the Queensbury, N. Y. on October 20. Mr. Schroeder is personnel director of the Scott Paper Co. and was introduced by Kenneth Miller, president, who presided.

Capital Raising Stymies Egyptians

OTTAWA—The Egyptian Government is endeavouring to foster industrial development, states J. M. Boyer, Canadian Government Trade Commissioner, in a report to Foreign Trade from Cairo, but although the local newspapers are continually filled with news of imminent developments in paper mills, etc., it is difficult to find any evidence that such projects are likely to attract the required capital in the near future.

Bemis Pamphleteering

ST. LOUIS—Bemis Bro., Bag Co., is distributing a "Pocket Guide to Bemis Products," a 16-page booklet illustrating and briefly describing more than 40 general types of its products and special services.

Scott's O'Neil to Harvard

BUFFALO, N. Y.—Edward V. O'Neil, local sales manager of the Scott Paper Co., has enrolled in an advanced management training program at the Harvard School of Business Administration.

Collins Names Colonial Agent

BOSTON — The Colonial Paper Co. has been named agent for all of the lines of the A. M. Collins Mfg. Co., Philadelphia.

McRae International Paper Director

NEW YORK — J. Finley McRae of Mobile was elected to the board of directors of the International Paper Co., on October 25 *(Paper Trade Journal,* October 27, page 7). Due to a printer's error in setting the subhead, this item, as published, was not entirely clear.

Mr. McRae, president of the Merchants National Bank of Mobile, Ala., has been associated with the bank since 1915. He was elected to the presidency in 1941 on the death of Ernest F. Ladd. Mr. McRae is also a director of the Waterman Steamship Corp., Alabama Dry Dock & Shipbuilding Co., and the Gulf, Mobile & Ohio R.R., Co., and the Alabama Power Co.

President of the Ernest L. Ladd Memorial Stadium Corp., Mr. McRae is a trustee and member of the executive committee of the Southern Research Institute and past president of the Rotary Club of Mobile.

Champion's Drake Addresses Printers

BUFFALO, N.Y.—Practical aspects of getting paper through the printing process were discussed by Ronald I. Drake of the Champion Paper & Fibre Co., at the October 20 meeting of the Buffalo Club of Printing House Craftsmen in MacDoel's Restaurant. Mr. Drake discussed ways and means of meeting paper problems in the modern printing plant and answered numerous questions from the floor.

Two Women Veterans Retire

HUDSON FALLS, N. Y.—Two veteran women employes of the Union Bag & Paper Corp., Mrs. Effie DeGarmo and Mrs. Mary A. Ryan, who retired under the company's new pension plan on October 15, were guests of honor at a surprise party given by co-workers in the sample room department. Mrs. DeGarmo was employed by the company for 47 years.

Sandusky Joins Trenton Corp.

TRENTON, N. J.—Otto A. Sandusky has joined the Trenton Paper Corp. as superintendent and technical director. He was formerly superintendent and technical director of the Southern Felt Corp., Morehead City, N. C.

Grady, NABO President

MENASHA, Wis.—Stanley B. Grady, budget director of the Marathon Corp., was elected president of the Milwaukee chapter of the National Ass'n., of Budget Officials at a recent meeting in Milwaukee.

J. D. Jenssen in New Quarters

NEW YORK—J. D. Jenssen, consulting engineer, removed his offices on November 1 to 19 Rector street, telephone, BOwling Green 9-3456.

1,010 Tons Days' Newsprint Run

CORNER BROOK, N. F. — Bowaters Paper Mills produced 1,010 tons of newsprint in a day's run, October 8.

control microorganism damage

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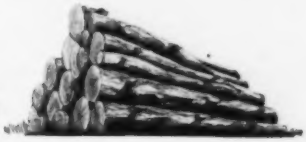

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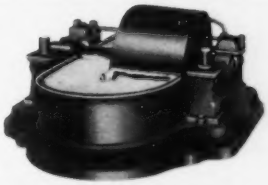

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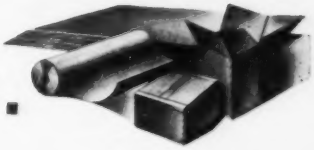

SANTOBRITE

(Monsanto's Sodium Pentachlorophenate, Technical)

Santobrite provides profit-saving protection from losses caused by microbiological activity at many points in paper manufacture.

Low in initial cost, Santobrite requires no special equipment — can be easily and economically applied. It is chemically stable, non-corrosive to metals, non-volatile and comparatively odorless. Furthermore, it is harmless to your employes when properly handled.

For full information on how Santobrite can be used to advantage in your mill, send for a copy of Monsanto Technical Bulletin O-5, "Santobrite for Microorganism Control in the Pulp and Paper Industry." Ask any District Sales Office, or write MONSANTO CHEMICAL COMPANY, Desk B, Organic Chemicals Division, 1764 South Second Street, St. Louis 4, Missouri.

DISTRICT SALES OFFICES: New York, Chicago, Philadelphia, Boston, Cleveland, Detroit, Charlotte, Birmingham, Houston, Los Angeles, San Francisco, Seattle, Portland. In Canada: Monsanto (Canada) Limited, Montreal. *Santobrite: Reg. U. S. Pat. Off.*

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1. **Log Storage — prevents stains caused by rot, fungi**
2. **Slime in Mill System — combats bothersome and damaging microbiological activity**
3. **Stored Pulp Lap — prevents rotting, staining, specking, sliming**
4. **Felts — toxic to microorganisms responsible for rotted machine felts**
5. **Board Stocks — helps prevent spoilage caused by microbiological decomposition**
6. **Size — prevents attacks by molds and bacteria in sizing and coating materials**
7. **Insect Damage — will protect cellulosic materials against termite and other insect attack**
8. **Finished Products — protects boxboard and board against mildewing**

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SERVING INDUSTRY . . . WHICH SERVES MANKIND

SAPI's Discuss Tariff Cuts

NEW YORK — Warren Bullock, manager of the Import Committee of the Paper Industry, speaking informally to the New York group of the Salesmen's Association at their monthly luncheon meeting at Midston House on October 24, warned the 25 members present not to get panicky about the effects of devaluation on prices of imported paper and board.

The tremendous capacity of American industry being what it is, importers can never take too great a portion of the U.S. paper and board demand; but the quantities they do bring in can "raise merry Hades with the price structure," Mr. Bullock stated.

Commenting on the recent ECA statement that what has happened to tariffs is only the beginning, that further duty rate reductions will be effected as fast as the machinery can be set up, and that we in America must be prepared to make sacrifices to put Europe back on its feet, Mr. Bullock said the cost to American industry and labor should be faced seriously. However, the problem posed by low prices is of grave concern. Prior to devaluation, also to the new trade agreements, there was no grade of paper which could be imported to the U.S. at a lesser price than it could be produced here with a fair profit, Mr. Bullock stated. Changes in duty rates as of January 1 will put the duty rates on practically all grades of paper as low as they can be put; and the administration now plans to get up a new series of negotiations for another round of rate reductions. "I do think the really serious thing is not to be panicked into breaking the price structure by foreign tonnages which can never be more than a modicum of the amount the U.S. market requires," he said.

Heaviest points of discussion centered about the probability of increased imports of Canadian groundwood book papers and .009 corrugated.

NAWMD Public Relations Comm.

NEW YORK — Each commodity division of the National Ass'n., of Waste Material Dealers, Inc., is represented on the Public Relations Committee appointed by President James T. Flannery. The committee held its organization meeting in the Association offices on October 27.

The full committee membership follows: *Secondary Metal Institute:* Emanuel Singer of H. Kramer & Co., Chicago, with Hugo Simon of the Barth Smelting Corp., Newark, N.J., alternate. *Cotton Rag Council:* Anthony Nicoletti of D. Benedetto, Inc., New York, with James Derrico of the Derrico Co., New York, alternate. *Waste Paper Institute:* David M. Dickson of the Penn Paper & Stock Co., Philadelphia, with Paul Jos., White of the Great Eastern Packing & Paper Stock Corp., New York, alternate. *Scrap Rubber Institute:* Henry M. Rose of H. Muehlstein & Co., New York, alternate. *Wool Stock Institute:* Jack Gluckson of the Gluckson Wool Stock Corp., Brooklyn, with Harold Kurtin of the Kurtin Wool Stock Co., Brooklyn, alternate. *Metal Dealers Division:* Emanuel Hettleman of K. Hettleman & Son, Baltimore, with Archie Rosenthal of Joseph Rosenthal's Sons, Inc., Philadelphia, alternate. *Scrap Iron Division:* Herman D. Moskowitz of the Schiavone-Bonomo Corp., Jersey City, N. J.

Maritime Ass'n. Packaging Survey

NEW YORK — The Packaging Committee of the Maritime Ass'n., of the Port of New York, under the direction of James B. Young, vice-president of Barber Steamship Lines, Inc., has completed the survey of outbound cargoes on 20 vessels in ten different foreign trade routes. The outturn reports in connection with the test voyages have now been received to the extent that the work is about two-thirds complete. The Committee is now undertaking to determine the form that the final report should take. The reports are so comprehensive that several months may be required before a final report can be released.

Oregon Safety Meeting Opens

NORTH BEND, Ore.—Nearly 50 representatives of Oregon's pulp and paper industry attended the annual two-day labor-management safety conference here on October 27-28.

General chairman of the conference was George LaHusen, safety supervisor at Crown Zellerbach Corp. Co-chairmen were John Sherman of Tacoma, vice-president of the International Brotherhood of Pulp, Sulphite & Paper Mill Workers, and O. R. Hartwig of Portland, general safety supervisor at Crown Zellerbach.

Speakers included A. E. Brown of Portland, a vice-president of the IBPM; Paul Gurske, chairman of the Oregon Industrial Accident Commission, and Robert M. Evenden of Salem, director of the accident prevention division, industrial accident commission.

The meeting was sponsored jointly by the IBPM and IBPS&PMW and Oregon pulp and paper companies belonging to the Pacific Coast Ass'n., of Pulp & Paper Manufacturers.

Oregon pulp and paper mills represented at the conference were the Coos Bay Pulp Corp., Empire; Publishers Paper Co., Oregon City; St. Helens Pulp & Paper, St. Helens; Fibreboard Products, Inc., Portland; Weyerhaeuser Timber Co., Springfield; and Crown Zellerbach, Lebanon and West Linn.

Ohio Sec. TAPPI

Allen Abrams spoke before a large crowd at the meeting of the Ohio Section TAPPI, at the Manchester hotel, Middletown, Ohio, October 13. Mr. Abrams, vice-president in charge of research and development of the Marathon Corp., Rothschild, Wis., had as his subject "Opportunity Through Research." He outlined the need for well-organized research and how research played a prominent part in developing new uses for paper in many fields of industry.

A discussion period followed his address, after which H. J. McClane of the Hercules Powder Co., Wilmington, Del., screened a film entitled "Problem Solution Results." The subject of the film flowed freely into the impressions that Mr. Abrams' talk left in the minds of those present, Earl Knapp, chairman of the publicity committee, reports.

ABOVE: Ohio Section, TAPPI, 1949-50. Left to right: John L. Coulse of the Oxford-Miami Paper Co., West Carrollton, corresponding secretary; Don J. Goodman of the Sorg Paper Co., Middletown, vice-chairman; Arthur Thurn of the Champion Fibre & Paper Co., Hamilton, chairman; R. C. McCarron of Stein Hall Co., Inc., Cincinnati, treasurer; Earl Knapp of the Auglaize Boxboard Co., St. Mary's, recording secretary.

PICTURED AT RIGHT: Arthur Thurn (left) Champion Paper & Fibre Co., Hamilton, Ohio, chairman of the Ohio Section meeting of TAPPI; and Allen Abrams (right) vice-president in charge of development, Marathon Corp., Rothschild, Wis.

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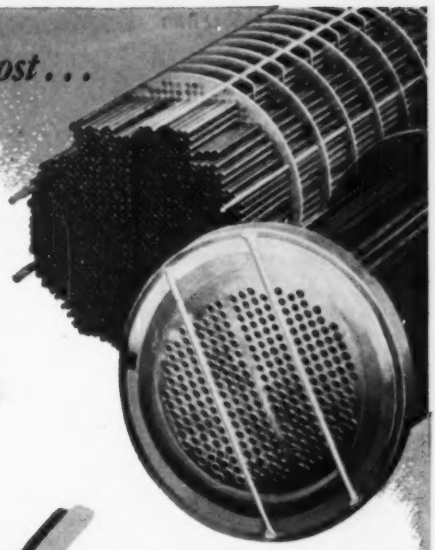
B&W

CARBON, ALLOY, AND STAINLESS STEEL



Condenser Tubes

You get...

- ..the most economical tube for each application
- ..ease of fabrication and installation
- ..service-proved quality and dependability

Because B&W Condenser Tubes are:

..Available in *seamless* and *welded* types, and a full range of carbon, alloy and stainless grades.

..Made to your specifications.

..Produced to same high standards that account for the wide use of B&W Tubing in all other Pulp and Paper Mill services.

B&W SEAMLESS and WELDED TUBES

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Mich. Supt's Discuss Rubber Rolls

KALAMAZOO—Discussion of the use of rubber rolls for paper and coating machines provoked a lively panel session at the monthly meeting of the Michigan division, American Pulp & Paper Mill Superintendents Ass'n., at Hotel Harris, on October 21.

Eighty men from throughout the Kalamazoo Valley, mill men and suppliers' representatives, heard R. M. Leighton lead discussion on the evening's topic. Mr. Leighton is a representative of Stowe-Woodward, Inc., manufacturer of rubber rolls.

The speaker was moderator of the panel for the general discussion. Other members were: Glen Sutton, Sutherland Paper Co.; Louis Schied, Watervliet Paper Co.; Harrison Kindig, MacSimBar Paper Co.; and Al Lutz, B. F. Goodrich Co.

Conditioning, curing, and care of rolls made from rubber, stone, and composition, and the relative merits of each, were matters covered in Leighton's presentation and in the panel discussion.

Exclusive Dealing Contracts Hit

NEW YORK—The American Paper & Pulp Ass'n., has called the attention of its members to the fact that the Supreme Court of the U.S., has denied a petition for a rehearing in Standard Oil Company of California and Standard Stations, Inc., vs. the U.S.. The C. Lee Cook Mfg. Co., Inc., Louisville, Ky., manufacturer of metallic compressor packings in the U.S., has been ordered by the FTC to discontinue the use of exclusive dealing contracts in the sale of its products, on the ground that such sales tend to create a monopoly and, therefore, are a violation of Section 3 of the Clayton Act. Under the terms of the order, the company must stop selling or contracting to sell its products on the condition or agreement that purchasers shall not use or deal in the metallic packings or replacement and repair parts of competitors. The order also forbids fixing prices, or granting discounts or rebates on such conditions or agreements.

Four Special AICE Features

PITTSBURGH—Four features of special interest to the pulp and paper industry are among the many on the program of the 42nd Annual Meeting of the American Institute of Chemical Engineers to be held at the William Penn hotel, December 4-7. They are: The Industrial Waste Symposium, with R. D. Hodak presiding (December 5) when F. W. Mohlman of the Sanitary District of Chicago, will read a paper on "Waste Disposal as a Factor in Plant Location," and V. J. Calise of the Graver Tank & Mfg., Co., New York, reads his paper on "Economic Factors in Waste Water Treatment"; and (December 6) when a paper by W. A. Selke and Harding Bliss of Yale University, "Application of Ion Exchange to Waste Disposal," will be read. Also, December 7, when A. J. Johnson, vice-president of the Shell Development Co., San Francisco, delivers a paper on "How the Petroleum Industry Trains Its Chemical Engineers" at the symposium and panel discussion on "Training in Industry of Young Engineers," with P. D. V. Manning presiding.

Western Forest & Conservation Ass'n.

PORTLAND, Ore. — "40 Years of Western Forestry Progress" will be the keynote of the American Conference of the Western Forest & Conservation Ass'n., at the Multnonah hotel December 8-10, Stuart Moir, forestry counsel for the association, reports.

During the sessions, forestry management progress and accomplishments of industry and public agencies will be reviewed and analyzed to see how well they are suited to current conditions and needs. Open forums will allow leaders of the forest industries, land owners, loggers and foresters from the U.S. and Canada to discuss problems.

Participating in the session will be representatives from the states and provinces served by the Association, including Washington, Oregon, California, Montana, Idaho and British Columbia.

BPTA Fall Dinner Meeting

BOSTON — The Fall meeting and dinner of the Boston Paper Trade Ass'n., will be held at Hotel Somerset, on November 16. Walter G. Leathe, the principal speaker will have as his subject, "How I Was Shanghaied Into the French Foreign Legion." The membership committee has approved two applications for regular membership. They are: John G. McNaught of the American Writing Paper Corp., and Wallace K. Graves of the International Paper Co.

NAWMD Extends Hands Across Sea

NEW YORK—To help cement further the international cooperation of the waste material industry, the National Ass'n., of Waste Material Dealers, Inc., has accepted the membership invitation extended by the Bureau International de la Recuperation, which has headquarters in Amsterdam, Holland.

FORESTRY

Intensified Fire Study Urged

WASHINGTON—Intensified study and training in forest fire behavior and intensified training of men in meeting fire-fighting emergencies have been recommended by a special board appointed by the Chief of the Forest Service, U.S., Department of Agriculture, to review last August's Mann Gulch fire in Helena National Forest, Mont., which cost the lives of 13 firefighters and burned over approximately 5,000 acres of timber and watershed land before it was brought under control.

Woods Operations Slackening

TORONTO—Woods operations in Canada during the coming winter is likely to be considerably less than a year ago, but this is not peculiar to the industry. Even without the impact of United States strikes in steel, coal and aluminum, it now looks as if Canada is likely to have a reduced working force this winter.

As conditions retreat from the abnormal of war and post-war years, there will be some reduction in a number of industries, of which logging and pulpwood cutting will be conspicuous. Unemployment in these industries may reach 100,000, it is claimed.

It is estimated that by December many parts of Canada will be feeling the impact of a sharp reduction in logging operations. The cutback is due to falling off of export demand for timber and pulp. It will reach its peak in January and February.

The changing character of Canadian business for the last quarter of 1949 is shown in trade returns. After allowances for price changes, it is now estimated that for 1949 as a whole, exports will be lower by possibly 6 percent and imports up by 6 percent. Pulp exports are down 18 percent. Against this, newsprint is currently running nine percent ahead of last year.

Arboretum Tree Planting Ceremony

VANCOUVER, B. C. — Canada's first Civic Arboretum had its start at the Queen Elizabeth Park on Little Mountain recently when the first tree was officially planted. The arboretum is being developed under auspices of the Western Branch of the Canadian Pulp & Paper Ass'n. Paul E. Cooper, chairman of the branch, made the introductory address. The tree, a native Pacific dogwood, was planted by Acting Mayor R. K. Gervin. In addition to municipal officials, the pulp and paper industry was represented at the ceremony by Mr. Cooper, Lawrence Killam, G. D. Humphrey, J. A. Young, M. J. Foley, H. J. Burns, Leander Manley, H. J. Hodgins, L. H. Killam, G. J. C. Hodson, G. W. O'Brien, and G. R. Bolton.

Representatives of the Truck Loggers' Ass'n.; B. C. Loggers' Ass'n.; Lumber Mfr's., Ass'n.; Provincial Forestry Department and Department of Forestry, University of British Columbia, as well as industrialists and civic figures, attended. Arrangements for the ceremony were handled by Leander Manley, secretary, Western Branch, CPPA.

Branch to California Region

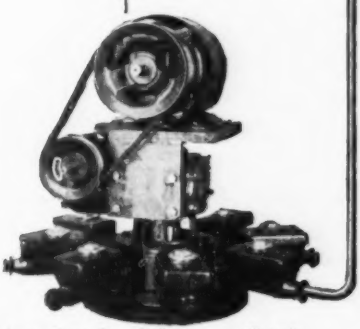
WASHINGTON — Willis C. Branch, who entered the U.S. Department of Agriculture's Forest Service in North Carolina in 1931, has been named assistant regional forester in charge of state and private forestry activities in the California region, effective December 1, succeeding W. S. Swingler, recently appointed regional forester at Philadelphia.

LODDING HYDRAULIC OSCILLATING SYSTEM—

universally applicable—oscillates any doctor on any roll. Space consideration no problem since oscillator occupies no more space than the doctor journal itself. One hydraulic line from each doctor to a master unit which can be located anywhere. One master unit can be used to oscillate as many as eight doctors.

Actuating cylinder journal of doctor. Note small space requirement.

The Lodding system offers low initial cost, low installation cost, low maintenance cost. This, plus the fact that it will fit anywhere a doctor will fit, including a great many places where oscillation has long been thought impossible, makes the Lodding Hydraulic Oscillating System the complete answer to the doctor oscillating problem.



Master unit serving all doctors oscillated. No valves—no circulating system.

Lodding Engineering Corporation, Worcester, Mass.
Represented by W. E. Greene Corporation,
Woolworth Building, New York.

Auctioning Timber Cutting Rights

LANSING, Mich.—The state conservation department auctioned the rights to cut timber in several Upper Peninsula state forests on November 2 and 4.

About 1,000 acres were opened for logging in Baraga, Menominee, Grand Sable and Munuscong state forests.

Auctions were held November 2 at the department district headquarters in Escanaba. On November 4, they will be conducted at the Chippewa County courthouse in Sault Ste. Marie; at the Baraga County courthouse in L'Anse; and at the Grand Sable State Forest headquarters near Melstrand.

Ore.-Wash. Timber Cutting

PORTLAND, Ore.—In a report of timber cutting sold during the July-September quarter, it was disclosed by the North Pacific region of the U.S. Forest Service that for the Oregon-Washington region it amounted to $2,254,-063. For the corresponding quarter in 1948 it was $8,556,610. Oregon lost its customary lead to Washington in timber sold in the last quarter, chiefly because of big sales in the Chelan forest. Oregon's $769,815 was compared to Washington's $1,484,248. Willamette led the 19 national forests in amount of timber cut.

Forestry Office To Be Moved

MARSHALL, Texas—Edwin G. Dale, district forester for the Northeast Texas district, said on October 26 that the district office here would be moved to Linden "in the next week or so." The farm forestry project office, whose territory has been expanded to include the entire Northeast Texas district, already has been moved to Cass County.

Mr. Dale said that the Jefferson installations, headed by Floyd Bramlett, will remain at the Marion County seat "for the time being."

Lessard Speaks on Bud Worm Blight

HULL, Que.—Eugene Lessard, chief forester of the Canadian International Paper Co., Maniwaki, Que., was guest speaker at the dinner of the Union of Chambers of Commerce of Western Quebec at Windsor hotel, here. His subject was: "Our Forests and the Damage Caused by the Spruce Bud Worm."

New Brunswick Forestry Wages

OTTAWA—Starting October 24, new minimum wages have been in effect for forestry labor in the New Brunswick area of Canada, with the general workers now being paid at least $4.50 a day, chore boys and cookees $3.40. Maximum board and lodging charge is $1.05 daily.

Gov. to Meet Conservation Comm.

LANSING, Mich. — Governor Williams has arranged to meet with the Conservation Commission on November 7 to discuss reforestation. The Governor is understood to be interested in speeding the reforestation of vacant state lands. The reforestation program is just beginning to recover from the war-time slump when plantings fell to almost nothing.

Idle Nursery Offered

LANSING, Mich.—The U.S. Forestry Service has offered the Michigan Conservation Commission the use of its unused nursery at Manistique. The commission showed interest but some members want the state to obtain the deed or a long term lease before spending money on the project.

New Mills Incorporated

TORONTO—Quality Spruce Mills, Ltd., has been incorporated with authorized capital stock of 2,950 preference shares of $100 pv, and 1,000 common npv shares.

CONVERTERS

Northern Containers, Inc., Sold

CLEVELAND — Northern Containers, Inc., manufacturer of corrugated fiber containers, has been acquired by the Cleveland Corrugated Box Co., a division of General Container Corp.

Joint disclosure of the transaction was made by G. Dudley Robinson, vice-president and general manager of Cleveland Corrugated, and Richard B. Euller, president of Northern Containers. All manufacturing operations of the two companies will be combined at Cleveland Corrugated's plant at 4600 Brookpark Road. Mr. Euller, who established Northern Containers in 1946, will represent Cleveland Corrugated in a special sales capacity in northern Ohio.

Morris Moving Imperial

CHICAGO — Morris Paper Mills has purchased a plant on an eight-acre tract at 1740 North 25th avenue, Melrose Park, Ill., to house the firm's Imperial Box Division. The plant is a practically new one-story brick and steel manufacturing building 264′ x 320′ adjoining a two-story office building.

MARKETS

Pulp, Paper and Board Industry October, 1949, Report

By W. LE ROY NEUBRECH
Chief, Pulp and Paper Section
U. S. Dep't., of Commerce
Office of Domestic Commerce,
Forest Products Div.

ECONOMIC REVIEW
(Excerpted)

Wood pulp, paper and board are highly important commodities in international trade and are subject to the effects of the recent wide scale devaluation of foreign currencies and the current changes in tariff structures negotiated at the Annecy Trade Agreements Conferences this past summer.

The domestic pulp, paper and board industry foresees practically no direct beneficial results of these international developments. Except for some immediate loss of export sales to a number of countries which have drastically reduced their currency in terms of dollars, the consensus of most industry observers is that it will be several months before most adjustments will be completed and the true extent of foreign price competition on the United States' market will have become apparent.

If the present level of domestic industrial activity is not too greatly hampered by existing, and threatened, labor difficulties and if, as it is hoped, further world recovery is generated, as it well may be, then despite devaluation and the present level of producers' inventories, a serious unbalance in world pulp and paper markets would not appear to be an early prospect.

United States exporters, even though faced with an immediate falling off of U. S. sales abroad, have recognized for some time the previous unrealistic official value of many foreign currencies and consider, from a long-range standpoint, that devaluation was an essential step toward eventual, greater multilateral trade. They foresee an opportunity, over a period of time, to reenter many foreign markets with a larger volume of sales than has been possible in recent years because of stringency of dollar exchange and import trade barriers.

This optimistic viewpoint is not shared equally by many domestic pulp and paper mills, ordinarily not producing for export. They foresee, on the other hand, shipments into the U. S. of larger quantities of wood pulp, newsprint and various grades of paper and board at prices below U. S. quotations. These mills, which by far outnumber those interested in export, are pessimistic as to the importance of either direct or indirect effects of increased world trade. It is true that indirect effects are mostly impossible to measure, but nevertheless paper, board and its products are a constituent part of every business transaction and the shipment of practically any commodity, whether it be for domestic use or for export. Imports of many products also create secondary distribution in wholesale and retail channels in the U. S. which require paper in one form or another.

While trade opinion is varied as to the eventual results of foreign currency devaluation and the fact that more time must elapse before a clearer picture can be seen, some industry economists do not view the outlook as too alarming. First, they point to Finland which devaluated its Finnmark this past summer but to date no substantial offerings of either wood pulp or paper have been made in the United States market at prices substantially below quotations prevailing in the second quarter. Also, fourth quarter contract dollar quotations of Swedish mills have held firm with the excep-

tion of unbleached sulphate notwithstanding the recent devaluation of the Swedish krona. However, spot market offerings at below contract prices are reported, a practice which existed several months before devaluation. It is likely that pulp and paper mills in the northern European countries will encounter inflation in their own countries with the result that certain raw materials, labor and other operating essentials may increase their costs before too long — an expected reaction but one which did not occur during the currency devaluation of 1931. Furthermore, mills in those countries have for some time claimed that their cost of pulpwood and other operating materials have made it impossible to reduce their prices below those prevailing in the second and third quarters, and that devaluation merely will allow for some profit in future export sales.

There naturally is a tendency to await, for a time at least, the net outcome of any major economic development such as currency devaluation, particularly one of such proportions as 30 percent. Furthermore, Finnish, Swedish, and Norwegian exporters together with their import agents in the U. S. want to attempt to analyze the full long-range effects of possible price reductions on their pulp sales to world markets, including the United States. Scandinavian mills, although primarily interested in maintaining their position in European and Latin American markets, are also interested in obtaining a larger volume in the United States market for sustaining their volume of production. At least some members of the pulp trade feel that so long as Scandinavian pulp prices, on a delivered basis, are practically identical to prevailing United States and Canadian prices, and in view of the good qualities of Scandinavian pulp, they are already on a truly competitive basis. It is felt, by some observers, that if Scandinavian prices were reduced a modest amount, in terms of dollars, that North American mills would be quick to meet this competition and the net result would be fewer dollars for every ton of pulp sold by all mills concerned without substantial changes in distribution of

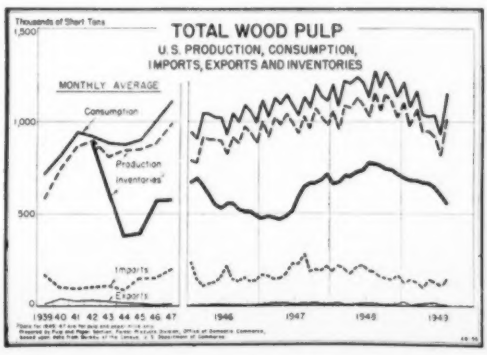
sales. On the other hand, there seems to be some feeling that should more than a modest Scandinavian pulp price reduction occur, in terms of dollars, that in time some pulp buying paper mills in the United States would find it attractive and perhaps a small increase in volume of overseas pulp would result.

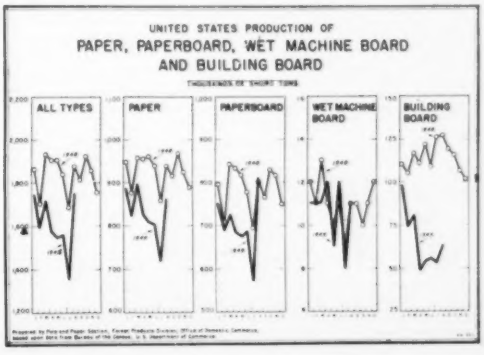
However, it is felt by some industry observers that Scandinavian shippers could only obtain a really sizable increase in volume in this country by a major price reduction over a sustained period of time which as a consequence would undersell not alone pulp mills producing market pulp for sale but also would attract the interest of some integrated pulp and paper mills who might find it more profitable to purchase their pulp rather than produce it themselves. This, of course, was the situation which prevailed in many of the prewar years when Scandinavian pulp was selling at prices below the cost of production in many parts of the United States.

But even this latter feeling is modified by industry apprehension concerning the possibility of another war and there is great doubt whether or not any United States companies would be willing to gamble on a sustained supply from northern Europe. A partial or complete shutdown of any United States pulp mill would mean a reduction in inventories of pulpwood consistent with the volume of pulp imported. Any important mill doing this might be confronted with a serious disruption of their pulpwood supplies and in instances lose their source of wood.

One should not forget, in viewing the world pulp markets, that reports definitely disclose that continental European paper mills are rapidly getting back into production with the result that more European pulp will be consumed in Europe itself. Furthermore, the devaluation of European as well as certain non-European currencies in terms of the United States dollar makes it more attractive for many such countries to purchase pulp as well as paper from European sources of supply in preference to the United States, and to a lesser extent in preference to Canada. This could mean that at least some of the surplus of North European pulp which has been available to United States buyers may be taken up by other consuming countries. Such a development, however, would not help to alleviate the dollar shortages of northern Europe.

Following close upon devaluation was the announcement by the United States Department of State of the tariff reductions negotiated at Annecy. There were 18 items in the paper, board and allied products field on which reductions were made, ranging up to 50 percent on certain items. From the standpoint of the primary manufacturers of paper and board the greatest concern seems to be with regard to glassine, greaseproof and imitation parchment; M.F. and M.G. kraft and sulphite wrappings; and a few grades of board. Import duty reductions, coupled with devaluation, are causing some concern in these particular industry segments as to serious potential competition on the domestic market. While certain concessions on paper and products were obtained from some of the countries with which negotiations were concluded, the domestic industry does not view these as being likely to result in any considera-





ble near future upturn in United States exports. Some additional paper products concessions will accrue to the United States as a result of negotiations concluded with third countries.

While the domestic pulp, paper and board industry is giving serious attention to the international picture, it, like many other basic industries, is equally concerned with the domestic outlook in view of the coal and steel strikes. It is not expected that the coal strike would drastically affect most pulp and paper mills until after 45 to 60 days but the steel strike would likely cause indirect repercussions within 20 to 30 days. Numerous manufactured products are made in part or wholly from steel. When the production of such products declines the use of paper and board for packaging and shipping containers will fall off in direct proportion. Such a development would automatically forestall the outstanding recovery made in the paper and board industry since the mid-summer slump.

NOTE: A more comprehensive and detailed current analysis on pulpwood, wood pulp, waste paper, paper and board, and wholesale distribution appears in the October Pulp, Paper and Board Industry Report which is available on a yearly subscription basis from the Government Printing Office or any field office of the U. S. Department of Commerce.

MANUFACTURES

Paper and Board

The high level of production and consumption of paper and board which prevailed in September was continued into the early part of October. Strikes in the coal and steel industries, which began on September 19 and October 1, respectively, had not yet affected the paper and board industry. However, prolonged strikes in those industries could paralyze many plants, especially those producing numerous products made wholly or in part from steel. This would soon be reflected in the demand for many grades of paper and board. For both paper and board, the last week in September recorded new weekly highs in operating ratios since early in the year, according to trade association data.

Similar to several other industries, the strong and rapid upturn in demand changed the fundamental conditions within the industry during a period of only two or three weeks. Prices which were weak and declining through the end of July suddenly solidified and reports from U. S. Commerce Department Field Offices point to some advances in September, particularly in the kraft products field. Mills which were operating on less than full week schedules, or those mills which had shut down for temporary periods, were for the most part reported operating full time in September and early October. Unfilled order files, which during July had reached vanishing points, have again become filled for several weeks ahead. As a consequence, it is again not possible for most mills to ship orders on short notice. In fact, a few mills at least reported a volume of back orders equal to any accumulated during the war days.

In addition to the actual demand prevailing to meet consumption requirements in the various fields of conversion and distribution, the stabilization of prices by practically all mills and wholesale distributors has lent zest to a replenishment of pipe line inventories. The scattered price advances by some mills, particularly in kraft products, has added to the psychological motive of placing orders at a time when many buyers apparently feel that prices are at the low point for the current cycle.

Were it not for the demoralizing tendencies of the coal and steel strikes as of early October and indications of other strikes in other industries, paper manufacturers, converters and distributors would anticipate a continuation of a high level of business for the remainder of this year. In the pulp and paper industry itself labor relations have historically been very amiable with few strikes necessary to settle labor-management relations. As of the end of September, labor leaders for some 15,000 American Federation of Labor paper mill workers and representatives of 35 mills on the Pacific Coast ended a 10 day wage conference. Announcement of the results is expected about the middle of October.

The return of stronger markets has brought about a noticeable return to the rather healthy attitude of mill executives in planning operations for mill economy rather than devoting attention to cut throat bidding and competition for orders as seemed prevalent only a couple of months ago. Management is reported also to be giving renewed study to technological improvements and inventions in the field of processing fiber and paper with the over-all motive of improving qualities and reducing costs. Notwithstanding the rapid advances in manufacturing techniques of the past couple of decades, many industry leaders foresee an intensification in this important field of research and manufacturing efficiency.

In the field of foreign trade, imports of paper, board and paper products in the first 8 months of this year, amounting to 3,155,000 tons, recorded an increase of 168,000 tons over the same period of 1948, with the biggest gain being in newsprint. Exports, on the other hand, in the first 8 months of this year totaled 259,000 tons recording a decline of 14,000 tons below the same period of 1948. Comparing August this year, with August a year ago, imports of these products showed a gain of 7,000 tons whereas exports recorded a loss of about 9,000 tons. As pointed out in the Economic Review section of this report, the devaluation of many foreign currencies is expected to make it more difficult for U. S. exporters to sell in many markets. The export trade does not view the concessions granted by certain foreign countries at the Annecy conferences as being of any particular significance for the time being at least. On the other hand, U. S. domestic producers point to the fact that the lowered U.S. import duties on certain items of paper and board, negotiated at the Annecy conferences, include certain important volume items produced in large quantities in the U. S. as well as in several foreign countries and express great concern as to the long range impact on the domestic market as a result of these import tariff reductions. The domestic industry emphasizes the fact that the concessions granted to the particular countries with which negotiations were concluded at Annecy apply equally to all countries with which the United States maintains most favored nation agreements. At the present time this means that the reduced duties apply to all countries of the world except Cuba and the Philippines which are subject to special concessions.

Newsprint

Domestic newsprint production continues to be the only major group of paper or board to record a gain in output this year over 1948. In the first 8 months of this year domestic production was nearly 10 percent greater than in the like period for 1948.

Total U. S. newsprint consumption in the first 8 months of this year recorded a gain of 6 percent over the same period of a year ago. Publishers' inventories, in terms of tons, gained nearly 16 percent comparing the end of August this year with the end of August a year ago, amounting to an increase of over 70,000 tons.

According to numerous trade reports of the past several weeks, the price on newsprint in the U. S. is expected to remain steady in view of the sustained strong demand and heavy consumption in the U. S., with supplies available being in approximate balance with requirements. The devaluation of the Canadian dollar by ten percent, in terms of the U. S. dollar, did not result in any price change to U. S. buyers. It is considered premature to view the prospects for newsprint some months ahead, although some elements of the newsprint trade point to the possibility of Great Britain seeking larger supplies of newsprint from northern Europe to the detriment of Canada. There is also the possibility of larger quantities from northern Europe entering the southern sections of the U. S. because of the devaluation of Scandinavian currencies. However, as of the present time, according to trade reports, in the Southeastern section of the U. S. the lowest price that overseas newsprint is being offered is in the neighborhood of $115 per ton delivered to Southern ports. This price is approximately equal to delivered "market prices" from established American and Canadian mills although quite a bit

higher than the contract price of Canadian newsprint delivered to customers in the Southern area at $104 per ton. On the other hand, some consumers of newsprint anticipate lower price quotations on overseas newsprint delivered in the South, but early in 1950 the new newsprint mill in Alabama is expected to be in production thereby making a larger domestic supply available in the Southern region.

Referring again to the general analysis in the Economic Review section of this report, it is most difficult to appraise market developments during the next few months with regard to international competition since so many factors are involved such as increased consumption of pulp and paper in other parts of the world including continental Europe. If this situation prevails such additional supplies as become available on the world market may find a ready market without the necessity of price cutting.

Groundwood Printing, Book, and Fine Papers

Demand for groundwood printing, book and fine papers showed a definite upturn in August and September. A renewed interest by commercial printers, magazine and book publishers was apparent as the result of the seasonal upswing in advertising. The pressure of the small commercial printers on wholesale paper merchants continues as the result of many such small firms having decided upon a policy of relying upon the paper merchant for day to day stocks.

The accompanying table discloses the sharp upturn in August in the production of most grades of groundwood, book and fine papers with August output in some instances exceeding the production of August, 1948.

Coarse Papers

The strongly strengthened demand for most grades of coarse paper, according to U. S. Commerce Department Field Office reports, was more apparent in September and early October than it was in August. The upsurge in pressing demands for quick deliveries on some grades resulted not alone in a firming of prices but in advances up to around 5 percent in some regions at least.

Perhaps in the field of coarse papers, including bag and shipping sack paper, the market is quite similar to the container and boxboard industry where a pick-up in the production of various types of nondurable goods is almost immediately reflected in the demand for packaging and container materials. In other grades of paper, market changes are apparently not quite so spontaneously sensitive.

Sanitary, Tissue, and Absorbent Papers

U. S. Commerce Department Field Offices report that, in general, conditions were relatively unchanged in the field of sanitary, tissue, and absorbent papers during September. A report from the Middle Atlantic region indicates that paper towels are in very strong demand. A competitive market, as well as a substantial return of brand name commodities to a surplus position, is reported in the Middle West as a result of retail price adjustments on different grades and weights of sanitary tissue, napkins, and other paper products. In a report from the South there is an indication that toilet and cleansing tissues have not felt the increased demand at jobbing levels which has been experienced by other papers.

Production of sanitary, tissue, and absorbent papers during the first 8 months of 1949 register decreases of 5 percent, 15½ percent, and 28 percent, respectively, compared with the output in the same period of last year.

Boards

A sharp upturn in demand and production of all grades of paperboard, as well as building boards, was recorded in early October and September.

The increased activity in manufacturing of most nondurable goods quickly resulted in a pressing need for boxes and shipping containers.

The continued high level of construction in the U. S., including residential building, has resulted in renewed demands for building boards, particularly insulation boards, by retail building material dealers throughout the country. According to reports of mid-summer, many building material dealers were quizzical as to a continuation of the high level of building. They were also concerned about the weakening in prices of many building materials including building boards. Now that both of these factors have become clarified, strong buyer interest is again apparent.

WORLD AFFAIRS . . .

Wood Pulp*

Conclusions of the Montreal Conference

NOTE: *These conclusions were drafted in the spring of this year. Subsequent developments and the economic adjustment in the United States have accentuated certain features of the world situation. In Scandinavia particularly, a virtual cessation of United States pulp imports is having a most serious effect on dollar balances. Consumption in the United States is so large in relation to the amount of European pulp imports that even a mild decline in American consumption can stop marginal imports, thus throwing the economies of the exporting countries seriously off balance. A greater reliance on alternate markets would be safer although at present this would not help the quest for dollars.*

In one sense, world needs for the products of pulp — newsprint, other printing and writing papers, wrappings, packaging material, and textile fibers — are far greater than existing supplies. This was the tenor of the message from UNESCO, with which the Conference agreed in principle.† However, physical limitations as well as the economic and financial problems connected with the acquisition of desirable supplies seem to stand in the way of meeting consumer needs as disclosed by UNESCO. Accordingly, the Conference had to restrict its deliberations to the *present and future effective demand of the pulp-using industries.*

General Summary

The Conference estimates given in Table 1 show approximate equilibrium between world production and requirements for 1948 to 1955. If these figures are confirmed by subsequent developments, there should be no major wood pulp surplus or deficit during the period under review.

The war has brought about a major change in the distribution of pulp production and pulp consumption as between different regions of the world. North America, which in 1937 produced 46 percent and consumed 51 percent of the world output (excluding the U.S.S.R.) now produces 68 percent and consumes 70 percent. The production and consumption of Europe, on the other hand, have fallen from 49 percent and 42 percent respectively in 1937, to 29 percent and 25 percent in 1948. The relative and absolute importance of consumption in Asia and the Far East have been reduced, largely because of the changed situation of Japan. In Latin America and in Oceania large percentage increases in output have occurred, but the tonnages in both regions are small in terms of world production.

Although 1948 production at nearly 28 million metric tons was the highest on record, it was estimated that there was in existence unused pulp producing capacity to the extent of 4.3 million tons in Europe and of more than one million tons in other parts of the world, mainly in Japan. At the same time a large amount of new capacity was being built or planned.

The increases for consumption and production of wood pulp and pulp products forecast for 1955 are subject to limitations which, particularly in Europe and Japan, may place grave difficulties in the way of their fulfilment. On the continent of Europe, but with less application to the northern countries, forests have been heavily overcut during the war and postwar years, and these accelerated rates of cutting cannot be sustained indefinitely without disastrous results. Full use of the pulp productive capacity which already exists would require an increase of about 60 percent in Europe in the rate of cuttings achieved in 1947 if full reliance were to be placed on the forests of the region. This appears to be improbable because of the high level of demands for other and competitive forest products, such as saw timber and pitprops.

* Courtesy *Unasylva*, published by the Food and Agriculture Organization in the United Nations.

† See *Report of the Preparatory Conference on World Pulp Problems*, Montreal, June 1949.

Table 1.—World Pulp Balance[1]

Region	1937 Consumption	1937 Production	1948 Consumption	1948 Production	1949 Requirements[2]	1949 Production	1950 Requirements[2]	1950 Production	1955 Requirements[2]	1955 Production
	1,000 metric tons									
Europe	9,900	11,590	7,000	8,050	8,350	8,900	9,400	9,600	11,800	11,100
U.S.S.R. (Exports)	....	[3]145	....	40	....	50	....	75	....	200
Near East and N. Africa	15	5	15	10	20	15	20	15	30	30
North America	12,030	10,950	19,255	19,010	18,930	[4]18,995	20,290	[4]20,310	23,705	[4]23,915
Latin America	245	25	470	190	550	295	580	315	685	440
Africa	....	....	15	15	15	15	15	15	40	30
Asia	1,525	1,180	520	505	630	600	715	665	925	880
Oceania	50	....	200	160	195	150	245	175	450	345
World	23,765	23,895	27,475	27,980	28,690	29,020	31,265	31,170	37,635	36,940

Region	1937	1948	1949	1950	1955
	Apparent surplus (+) or deficit (—)				
	1,000 metric tons				
Europe	+1,690	+1,050	+550	+200	—700
U.S.S.R.	+ 145	+ 40	+ 50	+ 75	+200
Near East and N. Africa	— 10	— 5	— 5	— 5	.....
North America	—1,080	— 245	[5]+ 65	[5]+ 20	[5]+210
Latin America	— 220	— 280	—255	—265	—245
Africa	....	....	...	...	— 10
Asia	— 345	— 15	— 30	— 50	— 45
Oceania	— 50	— 40	— 45	— 70	—105
World	+ 130	+ 505	+330	— 95	—695

...None, small, or not available.

[1] The forward estimates are based on varying hypothetical assumptions as to prevailing economic conditions in the various countries of the world.

[2] Maximum. Only one figure was given for production.

[3] Baltic Republics.

[4] Based on maximum production estimates for the United States.

[5] As indicated in the text, it is generally expected that North America will continue to show a net import balance. The calculation on which these surplus figures are based assumes that maximum production will occur, which is not necessarily true. The surplus indicated here results only from the mathematical calculations.

The situation is made more acute by the cessation of pulpwood exports from the U.S.S.R. Current estimates for European pulp production in 1955 would require net imports of pulpwood in excess of 3 million cubic meters. This figure is to be compared to a total European pulpwood cut expected to range from 40 to 50 million cubic meters around 1955. Yet this deficiency raises a difficult problem since it affects primarily the countries of western Europe which, in view of the present state of their forest resources, have to rely on large pulpwood imports.

The Japanese Government desires to increase woodpulp production substantially in spite of the domestic forests being overcut twice their annual growth. This Japanese production plan does not have the approval of the occupation forces. Prospects for large imports of pulpwood are not good because of the lack of adequate funds by the Japanese.

A factor affecting paper supplies is the increased manufacture of dissolving grades of pulp, mainly for the production of textile fibers. Although this diversion affects only a small proportion of the total production of chemical pulp at present, it tends to reduce the amounts available for the production of paper and paperboard whenever it occurs without the corresponding expansion of pulp producing capacity, as is true in some of the older pulp producing areas.

Short-Term Situation

The figures appearing in Table 1 with regard to 1949 and 1950 are on the whole more reliable estimates than those shown for 1955. Yet even in interpreting these figures it should be remembered that they constitute maximum estimates which are both possible and desirable, but which might be substantially modified in the light of general economic conditions. Moreover, the fulfilment of these estimates must come in most countries from the action of individual producers and pulp consuming industries over which the governments represented at this Conference exercise no direct control.

World pulp production (excluding the U.S.S.R.) was almost four million tons higher in 1948 than in 1937, the best prewar year. Statistics assembled by the Conference indicated that this output was slightly in excess of current consumption. Although the apparent world surplus was less than three percent of production and may be due to statistical inaccuracies, it tends to explain the recent decline in prices, accumulation of stocks, and the difficulties encountered by producers in disposing of their pulp.

The estimates for 1949 and 1950 indicate a rapid restoration of equilibrium. World pulp requirements for 1949 are expected to exceed last year's consumption by 1.2 million tons, while world production will increase by about 1 million tons. For 1950 a further rise in requirements by 2.5 million tons is anticipated which would exceed production by 100,000 tons. If these forecasts are confirmed by subsequent events, there might be a slight deficit by the end of 1950.

These world trends may be accompanied by certain shifts in the geographical distribution of wood pulp

Table 2.—Distribution of Wood Pulp Consumption and Production, by Regions

Regions	1937 Consumption	1937 Production	1948 Consumption	1948 Production	1955 Consumption	1955 Production
	Percent					
Europe	42	49	25	29	31	30
Near East	..	..	..	..	..	..
North America	51	46	70	68	63	65
Latin America	1	..	2	1	2	1
Africa	..	..	..	..	..	..
Asia	6	5	2	2	2	2
Oceania	..	..	1	..	1	1
Total	100	100	100	100	100	100

.. Less than 1 percent.

production and consumption. Despite capacity increases, North America's output in 1949 is expected, for economic reasons, to remain below the previous year; this reduction would be offset by a projected increase in European production of 900,000 tons. In 1950 European production is expected to expand by another 600,000 tons and North American production by 1.3 million tons.

It is expected that European requirements will show a very much quicker expansion than European production, with the result that Europe's net surplus available for export from current production of wood pulp would decline from 1 million tons in 1948 to 550 thousand tons in 1949 to some 200,000 tons in 1950. To the extent that currency considerations compel European producers to give priority to whatever they can sell for dollars, the supplies of wood pulp available to Europe from European production might fall below effective requirements unless the production in northern Europe is correspondingly increased. If, on the other hand, European requirements were fully met, this might curtain substantially Europe's possibilities of securing dollars and other non-European currencies through pulp exports.

In North America also, market pulp requirements are likely to continue on a somewhat higher level than production. It is possible, however, that some of the resulting net import requirements may be met from accumulated stocks; it should further be remembered that North American requirements are calculated on the assumption of full employment and other economic conditions which may not occur.

It should be understood that the figures just quoted refer to net balances and do not indicate actual imports or exports. Indeed, in the case of North America, it is estimated that actual pulp imports from Europe might be in the order of 300,000 to 500,000 tons in both 1949 and 1950, while at the same time total North American overseas exports might be in the order of 250,000 tons, or at about the same level as in 1947 and 1948. This suggests that no substantial quantities of North American pulp will be offered to the traditional markets for European pulp and that the fears of European producers in that connection are unfounded. American purchases of European wood pulp are likely to be substantially larger than the quantities to be shipped from North America to continental Europe.

It should be stressed that the temporary surplus experienced at the end of 1948 referred only to effective demand, and that Europe and large portions of Asia were actually suffering from shortage of paper and other pulp products which were insufficient to meet the desires of the press and other consumers. Although the lack of pur-

Table 3.—Pulpwood: Minimum Requirements and Supplies[1]

Country and Region	1937 Consumption	1937 Cut	1937 Net Trade Exp. + Imp. —	1949 Consumption	1949 Cut	1949 Net Trade Exp. + Imp. —	1955 Consumption	1955 Cut	1955 Net Trade Exp. + Imp. —
				1,000 cubic meters, solid volume					
Europe									
Austria	....	1,900	+ 500	1,400	1,250	— 150	2,000	2,000	..
Belgium	....	....	— 180	190	175	— 15	200	185	— 15
Czechoslovakia	..	2,300	+ 370	1,236	1,800	+ 564	1,488	1,800	+ 312
Denmark	17	17	...	3	3	...	11	11	...
Finland	..	10,400	+1,540	7,500	8,000	+ 500	8,000	8,500	+ 500
France	....	600	— 800	1,960	910	—1,050	2,360	1,510	— 850
Germany	....	5,700	—3,140	....	....	..	....	....	...
Bizone	..	....	...	2,550	2,150	— 400	3,500	1,500	—2,000
French Zone	....	....	...	660	2,210	+1,550	1,030	1,030	...
U.S.S.R. Zone	....	....	..	1,660	1,660	...	1,961	1,961	...
Hungary	....	....	— 25	15	15	...	15	15	...
Italy	....	800	...	850	850	...	1,200	900	— 300
Norway	....	5,300	— 560	3,950	4,000	— 50	5,050	5,000	— 50
Poland	....	1,200	+ 340	800	800	..	1,200	1,200	...
Sweden	20,000	18,200	— 170	17,200	17,000	— 200	17,200	17,000	— 200
Switzerland	360	240	— 120	450	450	...	450	400	— 50
United Kingdom	....	....	— 330	210	90	— 120	510	90	— 420
Others[2]	....	1,300	— 420	1,000	800	— 200	1,800	1,300	— 500
Total	....	47,955	—2,995	**41,635**	**42,165**	+ 430	47,975	44,400	—3,575
U.S.S.R.	....	6,700	+2,820	....	....	...	....	....	...
North America									
Canada[3]	16,925	20 787	+4,057	26,118	30,884	+4,766	28,249	31,798	+3,549
United States	26,505	20,000	—3,820	50,490	45,645	—4,845	64,856	59,872	—4,984
Total	43,430	40,785	+ 235	76,610	76,530	— 80	93,105	91,670	—1,435
Asia									
Japan[4]	....	3,500	...	1,700	1,645	— 55	3,400	1,800	—1,600
Oceania									
Australia	..	....	...	311	311	...	555	555	...
New Zealand	....	....	...	30	30	...	530	530	...
Total	....	....	...	340	340	...	1,085	1,085	...
GRAND TOTAL	....	....	...	120,285	120,680	+ 295	145,565	138,955	—6,610

NOTE: This table is based on minimum estimates of future consumption rather than a maximum estimate. The difference between minimum and maximum totals for Europe where the most critical pulpwood situation exists is relatively small. The difference between minimum requirements for the United States on the other hand is relatively large. Use of maximum estimates on a world-wide basis, therefore, might give an apparent world import deficit of pulpwood so large as to appear unrealistic.

.. None, small, or not available.

[1] Theforward estimates are based upon varying hypothetical assumptions as to prevailing economic conditions in the various countries of the world.

[2] "Others" include Portugal, Yugoslavia, Bulgaria, Rumania. Some of these may have export surpluses; but the group includes the Netherlands which will require imports of at least 500,000 cubic meters by 1955.

[3] Includes Newfoundland.

[4] Japan proper.

chasing power and currency restrictions which accounted for this situation are likely to continue, reductions in the prices of pulps and larger available supplies should, in the near future, somewhat ease the acute shortage of newsprint and other papers in war-affected regions.

Long-Term Outlook

The Conference devoted considerable attention to the prospective wood pulp situation in 1955 and even attempted to make certain estimates which are summarized by regions in the various tables of this report. These figures should be considered with extreme caution, not only in view of their tentative nature, but because only a limited number of countries were prepared to present estimates. Hence the Conference had to take on itself the task of assessing the future developments in a number of countries some of which, like Sweden and Finland, are among the most important wood pulp producers.

A further general qualification of all figures for 1955 is necessary as a result of the usual tendency in forward estimates to exaggerate future requirements and to underestimate prospective production. Allowance for this error suggests that the two percent deficit between world requirements and production in 1955 shown in Table 1 is not likely to occur, and that a satisfactory balance between production and requirements may be anticipated for 1955 if the assumptions underlying the estimates in Table 1 are realized and the necessary pulpwood is available.

Finally, it should be stressed that the figures listed for 1955 do not represent forecasts in the usual sense, but rather indicate expectations for the production and consumption of wood pulp in individual countries. These expectations are based for many countries on the assumption of full employment and continued economic expansion, and are bound to undergo modification under the impact of subsequent developments, including considerations arising from the balance of payments of various countries. Moreover, forecasts may be revised in some important respects in the light of the findings of this Conference. Since it was the purpose of the Conference to attempt a regional and world-wide review of programs for wood pulp production and distribution, *a revision of these expectations as a result of its findings would implement one of the major purposes which it hopes to achieve.*

Consumer Needs: Pulp requirements arise from the needs of paper and other industries manufacturing an ever-growing variety of pulp products such as newsprint, other printing and writing papers, wrappings, paperboard, building boards, rayon, etc. The output and hence the requirements of these pulp and processing industries is in turn determined by the effective demand of consumers for their products.

Without attempting an assessment of consumer needs‡ for paper and other pulp products, the Conference felt that the trend of pulp requirements for the period 1948-1955, as shown in Table 1, appears adequate to cover the needs of consumers in different parts of the world in terms of effective demand and purchasing capacity. It appears unlikely that substantially larger amounts of paper and other pulp products could be imported and bought even if they were available. On the other hand, the Conference was not certain whether pulp production in 1955 would actually reach the projected levels, mainly on account of raw material shortages in Europe and Japan which are discussed later in this report.

A more detailed examination of needs for pulp products was beyond the scope of the present Conference. To assess these needs it would be necessary to consider not only the desirable and the possible trends in the consumption of paper for educational purposes and for packaging, and in the manufacture of rayon for clothing and for industrial purposes, but also to determine the extent to which the purchasing power of consumers and the balance of payment of countries that import paper and rayon would make it possible to meet these needs.

Moreover, increasing amounts of straw, bamboo, waste paper, and other raw materials are used in addition to wood pulp for papermaking, and all these materials must be taken into consideration in any attempt to establish a balance for paper and other pulp products. These additional raw materials, although of agricultural or forestry origin, were not included in the terms of reference of the present Conference, which was therefore unable to give to them that thorough consideration which their importance may justify.

The Conference, however, noted the concern of the Director-General of UNESCO about the fact that cultural progress in the less developed countries is delayed through inadequate supplies of printing papers while, in many of the more advanced countries, post-war shortages of paper still interfere with the normal functioning of the press and the restoration of educational facilities.

The Conference was unanimous in appreciating the importance of adequate paper supplies for mass education and information and agreed that larger paper supplies for these purposes are eminently desirable. Many delegates believe that an assessment of present and prospective consumer needs for pulp products would constitute a valuable supplement to the information on wood pulp contained in the present report.

Production and Requirements: In addition to the general reservations that apply to all forecasts of requirements, the estimates of wood pulp requirements in 1955 attempted by the Conference call for further qualification. For many years pulp producers have attempted to integrate their operations with the manufacture of newsprint, paperboard, and a few other mass products in a continuous-flow operation. This tendency is not only in line with the general economic policy of countries to produce fully manufactured rather than partially manufactured products, but also tends to render the production process more efficient and to reduce shipping costs.

In pursuance of this policy the major pulp producing countries have undoubtedly included in their forward estimates for pulp requirements provision for additional exports of finished products. This may reduce the export possibilities of countries which had hitherto imported substantial amounts of pulp for re-export in the form of paper and similar products, but it is unlikely that these reductions were fully considered by the latter group; the requirement estimates in Table 1 might therefore be on the high side.

It should also be remembered that a number of less developed countries are about to set up their own pulp industries which would supply local paper mills which hitherto had to import all their wood pulp from Europe and North America.

The Conference believes that these tendencies toward the local integration of pulp and paper manufacture, while perhaps inevitable, may endanger the continued existence of converting industries in a number of pulp importing countries. The Conference envisages the maintenance of pulp exports at levels which would permit the continued activity of existing pulp converting industries, but calls attention to the danger of any expansion of pulp converting industries in countries which do not have an assured and continuous supply of pulp from domestic or nearby sources.

With due consideration to the preceding qualifications, Table 1 indicates that pulp requirements in 1955 will be roughly 10 million tons or almost 40 percent higher than in 1948. This increase at an annual rate of about 5 percent is indeed very substantial, especially when compared to an increase of only 3.7 million tons or 15 percent between 1937 and 1948, corresponding to an annual expansion of 1½ per cent. It is true that the past 11 years have been disturbed by a world war whereas the forecasts for 1955 assume a period of peaceful expansion.

The Conference estimates show approximate equilibrium between world production and requirements for 1948 to 1955. If these figures are confirmed by subsequent developments, there should be no major wood pulp surplus or deficit during the period under review.

On the other hand the estimates indicate a significant change in the world distribution of wood pulp as shown in Table 2.

The Conference estimates indicate

‡ "Needs" is used in this section to indicate consumer requirements irrespective of economic or physical possibilities for meeting them.

a change in Europe's position in the world pulp picture. Before the war this continent was the major source of wood pulp exports to the rest of the world with a net export of roughly two and one-half million tons. At present, Europe is still a net exporter of wood pulp although on a smaller scale, but European requirements by 1955, according to Table 1, would be in excess of European production. Such a situation, if it should develop, could be corrected by smaller over-all requirements or by such increases in the wood pulp production in northern Europe as may be necessitated by economic circumstances and by consideration of commercial policy. Yet, according to general trends, each of the major regions of the world would have to supply by 1955 most of its own pulp, notwithstanding the possible continuation of certain transoceanic pulp shipments.

The Conference has tentatively estimated wood pulp exports of the U.S.S.R. at 200 thousand tons for 1955. It believes that this is a cautious estimate and that a substantially larger supply might be forthcoming from this source.

Between 1948 and 1955, North America's wood pulp requirements show an increase of 4.5 million tons or 23 percent compared to an estimated 80 percent increase for Europe and even larger proportional increases for Oceania, Asia, and Latin America. The gradual leveling off of the rising curve in North America's pulp requirements must be attributed mainly to the exceptional increase during the first postwar years, whereas, conversely, European output from 1946 through 1948 was restricted by raw material shortages and other post-war conditions.

In 1955 world pulp consumption may be roughly 50 percent higher than in 1937; but Europe's requirements for the same period may only be expected to increase by 19 percent and Asia's requirements may still be down by 40 percent.

Raw Materials: The Conference was in unanimous agreement that no pulp factory should be built without being assured of a continuous supply of raw materials based on sustained forest yield. In general, pulp should be produced where mills can be supplied with pulpwood in an economical way.

There are exceptions to this rule: e.g., the transport cost of wet pulp is so high that it is cheaper to import pulpwood; it also might be necessary to maintain in existence, for social, political, and humanitarian reasons, established pulp mills which have to rely on pulpwood imported from considerable distances. Such mills may eventually be able to replace imported pulpwood with other raw materials from nearer sources, although such a replacement would presumably entail considerable investment in new equipment.

In this connection, progress in the manufacture of pulp from temperate zone hardwoods, tropical woods, residual straws, and grasses warranted particular consideration by special working groups of the Conference.

Table 3 reveals for 1955 a prospective trade deficit of from 6 to 7 million cubic meters; additional imports of that magnitude would be needed to achieve the anticipated pulp production of 36.9 million tons. This trade deficit and the shortages of pulpwood supplies in Europe and Japan do not mean that it would be impossible to attain by 1955 a world production of 36 million tons of pulp or even more. But the figures assembled in Table 3 indicate that, unless prospective supplies of pulpwood or other fibrous materials can be increased through large imports from the Soviet Union or by technical improvements, such as integration of forest industries, a considerable change in the location of pulp capacity may have to take place if the anticipated production is to be reached. To explore this problem further the Conference decided to review the position by regions.

(To be continued)

PRODUCTION . . . .

Nine Consecutive Annual Increases

OTTAWA — Recording the ninth consecutive year of increases, Canadian Government reports now that the pulp and paper industry of Canada surpassed in 1948 the many records it has established the previous year. The gross factory value of the products of the industry reached $825,858,000 in 1948, showing an advance of 16.8 percent over the preceding year's total of $706,972,000, while the net value of products at $412,700,000 was 16.9 percent higher.

The industry paid out $151,663,000 in the form of salaries and wages to 51,924 employes compared with $129,478,000 paid to 49,946 employes in the preceding year. Materials and supplies valued at $349,244,000 were used in 1948 as against $295,444,000 in previous year and the cost of purchased fuel was $41,366,000 against $31,834,000, with purchased electricity totaling $22,477,000 against $23,609,000 in preceding year.

In 1948, there was a total of 117 mills in operation, an increase of two over the preceding year. One pulp mill ceased operations in Nova Scotia and a pulp mill resumed production in New Brunswick. Ontario had one new pulp mill. British Columbia had one new pulp mill and a paper mill.

The 91 mills manufacturing pulp produced 7,675,000 tons valued at $485,966,000 as compared with 7,254,000 tons valued at $403,853,000 in 1947, increases in quantity and value of 5.8 percent and 20.3 percent, respectively. Of the 1948 total, 72.2 percent or 5,543,000 tons valued at $242,690,000 was produced by combined pulp and paper mills for their own use in paper-making. Over 23 percent of the total pulp production was made for export, with tonnage 8.3 percent and value 22.3 percent higher than in 1947. The remainder, about 4 percent of the total production, was made for sale in Canada and showed a decrease in quantity of 2.8 percent but an increase in value of 18.3 percent.

Groundwood pulp formed 57.5 percent of the total quantity of pulp made in Canada in 1948. Unbleached sulphite accounted for 18.3 percent, about four-fifth consisting of "news" grade. Bleached sulphite made up 9.5 percent, of which about a half was paper pulp and the balance dissolving pulp, the latter used in the production of rayon, celanese, cellophane and pulp-based plastics. Sulphate pulp represented 10.6 percent of the total, mechanical screenings 0.9 percent, chemical screenings 1.1 percent, defibrated and exploded fibre 0.9 percent and all other pulp 1.2 percent.

The 88 mills making paper in 1948 produced 6,064,000 tons of paper and paper boards valued at $582,347,000 as compared with 5,775,000 tons valued at $507,101,000 in 1947, increases of five percent in tonnage and 14.8 percent in value.

Newsprint made up 76.5 percent of the total reported tonnage of paper manufactured in 1948. Newsprint production amounted to 4,640,000 tons with a value of $402,100,000 as compared with 4,474,000 tons valued at $355,541,000 in 1947, representing increases of 3.7 percent in quantity and 13.1 percent in value. Production of all other kinds of paper also increased both in volume and in value.

The extent of the increases in the pulp and paper industry in 1948 is best measured when expressed as percentages of the previous record year, the official report states, with 1947 figures being given in brackets, as follows: gross value of products, 825,857,664 ($706,971,628), 16.8 percent; net value of products, $412,770,470 ($356,084,900), 15.9 percent; salaries and wages paid, $151,662,761 ($129,477,995), 17.1 percent; employment, 51,924, (49,946), four percent; cost of materials and supplies used, $349,244,083 ($295,444,332), 18.2 percent; cost of purchased fuel used, $41,365,665 ($31,833,560), 29.9 percent; power equipment used, 2,513,115 (2,364,649) h.p., 6.3 percent; cost of purchased electricity, $22,477,446 ($23,608,836), decrease of 4.8 percent.

The report points out that the manufacture of pulp and paper has been consistently one of the most important industries in Canada during the last 34 years. While complete statistics for the other industries are not yet available for 1948, yet comparative date for 1947 in ten leading industries shows that the pulp and paper industry retained first place in regards to gross value of products, a position it had regained in 1946 after having occupied it from 1925 when it replaced flour

Increase Over 1947 In Volume and Value

	Volume %	Value %
Newsprint paper	+ 3.7	+13.1
Groundwood printing and specialty papers	+54.3	+68.4
Book paper	+ 0.8	+12.0
Fine papers	— 5.4	— 0.7
Miscellaneous fine papers	— 9.7	+ 4.8
Tissue paper other than sanitary	—15.2	+ 1.5
Sanitary papers	+ 7.3	+18.2
Special industrial papers	— 6.0	+ 3.1
Wrapping papers	+ 9.7	+19.3
Building papers	+10.8	+29.2
Paper boards	+ 7.9	+21.0
Building boards	+24.0	+30.1

and feed mills, until 1935 when it was overtaken by the non-ferrous metals and refining group. It also held in 1947 the top position for wage and salary distribution it had regained in 1946 for the first time since 1942 which it had taken over from sawmills in 1922. Except during the war years 1942-1944, the pulp and paper industry has headed the lists in net value of production since 1920. With respect to number of persons employed it is now third to sawmills and electrical apparatus and supplies.

Gross production in the pulp and paper industry in 1948 was 16.8 percent up over the previous year of 1947 and up 238.5 percent over 1929 as well as 569.2 percent up on 1933. This gross value represents the sum of the values of pulp made for sale in Canada, pulp made for export, and paper manufactured. It does not include pulpwood, nor the pulp made in combined pulp and paper mills for their own use in making paper.

With regard to the net value of production, the pulp and paper industry has headed the list since 1920 when it replaced sawmills, until 1942 when it was overtaken by the war industries. It regained first place in 1945. The net value of production, compiled in the manner usually employed, shows a gain of 15.9 percent in 1948 over 1947, an increase of 237.5 percent over 1929, and a gain of 620.5 percent over 1933.

The Province of Quebec leads in the manufacture of pulp with 50.8 percent of the total for 1948, and Ontario is second with 29 percent. British Columbia, New Brunswick, Nova Scotia and Manitoba follow in that order, British Columbia accounting for nine percent and the three other provinces for 11.2 percent.

Increases in the quantity of paper produced were shown in all provinces concerned: Quebec and Ontario showed increases of 4.5 percent and 6.2 percent respectively; the group of provinces comprising Nova Scotia, New Brunswick and Manitoba registered a gain of 5.4 percent; in British Columbia the increase was three percent.

The Canadian production of newsprint was over five times that of the United States in 1948 and formed 78.6 percent of the total North American production of 5,850,328 tons.

Production of all other kinds of paper also increased in volume and in value. The percentages of increase over 1947, in volume and value, for each kind of paper in 1948 are shown in the accompanying table.

MISCELLANY . . . .

Overloading Insurance Coverage

NEW YORK—In keeping with growing recognition that insurance buying is a specialized management function requiring expert handling on a policy-making level, many corporations are overhauling policy and procedure for administering their insurance programs.

This was pointed out on October 28 in a research report, "Buying and Administering Corporate Insurance," prepared by the American Management Ass'n. Characterized by the Association as the first analysis of corporate insurance management practices, the study is based on a questionnaire survey of 226 representative companies, case studies, and interviews with leading insurance buyers, brokers and carriers. It was prepared by Russell B. Gallagher, AMA insurance vice-president, who is manager of the insurance department of the Philco Corp., Philadelphia. The report covers methods of determining policy on insurance matters, organization of company insurance departments and their position in the corporate structure, and procedures used in determining day-to-day insurance matters, including losses. Copies are available from the American Management Ass'n., 330 West 42nd street, New York 18, N.Y., at $2.50 to AMA members and $3.50 to non-members.

Correction—Swedish Ass'n. Said It

The Swedish Pulp Ass'n., said a study made in Sweden indicated that the domestic and Canadian pulp industry has over-expanded in the light of present demand. In the September 29 issue of *Paper Trade Journal*, page 16, it was stated that this question was raised by the United States Department of Commerce. Actually the Department of Commerce merely printed a report on "Pulp and Paper Developments, Sweden, 1948" in which this statement regarding a study of world markets by the Swedish Pulp Ass'n., was mentioned.

Our apologies to the Department of Commerce for misinterpretation.—ED.

Urges Hydro-Elec. Development

BOSTON, Mass. — C. Girard Davidson, Assistant Secretary of the Interior, said on October 21 that New England is lagging in production of low-rate electricity because it has failed to utilize available water power.

Timberland Surrenders Texas Permit

AUSTIN, Texas — Southern Kraft Timberland Corp., Georgia, has surrendered its Texas permit (charter).

Statistics of Paper—Second Edition

NEW YORK—The "Statistics of Paper" is an official publication of the American Paper & Pulp Ass'n. This second edition is an enlargement and revision of the first edition which was published in 1947. The Book, Glassine and Greaseproof, Groundwood, Kraft, Specialty Paper and Board, Sulphite Paper, Tissue, Vegetable Parchment, and Writing Paper Manufacturers Ass'ns., and the United States Pulp Producers Ass'n., all of them member associations of APPA, contributed to preparation of this book. As a reference book the "Statistics" is believed to be a unique and authoritative compilation of the essential statistical data on the paper industry.

Table of contents of the new edition lists: I—Pulpwood; II—Wood Pulp; III—Waste Fibrous Materials; IV—Paper, Paperboard and Paper Products; V—General Summaries Data, and Index. Under each major heading are the principal available data on production, consumption, imports, exports and a number of receipts, consumption and inventory series.

Price of the above publication is $5 per copy, postpaid in the U.S. Order from American Paper & Pulp Ass'n., 122 East 42nd street, New York 17, N.Y.

U. S. August Exports-Imports

WASHINGTON—Exports of paper and manufactures in August gained slightly, amounting to $6,600,000, or $100,000 above the July shipments, the Commerce Department reports. Shipments for the same month last year totaled $9,900,000 and the monthly average for 1948 was $9,700,000. Woodpulp imports were up, 135,000 tons compared with 114,000 in July, respectively valued at $13,500,000 and $11,600,000. Imports of newsprint also rose, to 808,000,000 pounds, valued at $38,200,000, from 755,000,000 valued at $35,900,000 in July.

ECA Authorization

WASHINGTON — Procurement of paper and related products, including newsprint, totaling $11,200,000 from Canada for export to the United Kingdom, was authorized by ECA during the week ended October 8. Included in the authorization were paper and products, $10,600,000, and newsprint, $600,000.

L. A. Foreign Trade Zone

LOS ANGELES—The largest individual shipment received during the first 25 days of operation of the Los Angeles Harbor Foreign Trade Zone, fourth such zone in the nation, consisted of a 1,119,937 pound consignment of wood pulp from Europe, destined for California building material manufacturers. Total receipts of all kinds in the new zone were 1,500,000 pounds.

The wood pulp shipment is a practical example of the economic advantages of the zone, according to A. B.

Herbold, traffic manager of the Crescent Wharf & Warehouse Co., which manages the zone.

Buyers are enabled to purchase goods on foreign markets, store them in the foreign trade zone and withdraw same from the zone through payment of customs duties and other charges as needed.

Shipments held in the zone do not pay duty until released through the U.S., Customs Department, and shippers may sort, grade and remark articles in the zone to meet Customs regulations. Incidentally, it is possible to place shipments with improper markings in the foreign trade zone for remarking to escape penalty payments.

Canada Watching London Parley

OTTAWA—The talks between officials of the Canadian Government and those of the United Kingdom in London about the latter's likely buying in Canada during the 12-month period starting last July are being watched with unusual interest because they may offer a key to what timber needs will be supplied to the U.K., market by Canada in the coming months. Among officials taking part in these important talks is Deputy Minister of Trade and Commerce Max Mackenzie.

At present there are no timber contracts for the U.K., on the West Coast and in the Eastern region the contracts for the U.K., in the Maritimes will end this year so that unless negotiations bring concrete results shortly winter woods operations in Canada may be curtailed.

Canadian exports of woodpulp dropped to $13,141,000 during August this year as compared with $16,153,000 in August of last year and declined to a cumulative total of $113,261,000 during the first eight months of 1949, ending August as against $139,551,000 in the similar period of 1948.

Wisconsin Road Reclassification

MADISON, Wis.—Substantial liberalization of the state highway commission's regulations governing the weight of trucks allowed on 1,421 miles of the trunk highway system was reported on October 14.

The commission transferred mileage in that amount from the "B" classification, which has a more strict weight limitation, to the primary or "A" classification, it was said. William Ward, secretary of the commission, explained that the change was made in a commission order dated last August.

The revision brings the total of Class-A highways in the 11,000 mile system to about 69 percent, or about 7,473 miles.

On a Class-A road a trucker can carry 19,000 pounds per axle, with proper axle spacing. The Class-B roads are limited to a gross weight of 12,000 pounds per axle, if properly spaced.

Maps of the new classification are available from the state highway department at Madison.

Alkalis—August and September

WASHINGTON—Improved demand for alkalies in August and September was noted in its review of the chemicals and drugs industry by the Office of Domestic Commerce at the end of October. At the same time, commenting that the gains have been slight, the report said consumption of alkalies this year is expected to be considerably lower than for 1948. A continued tight situation in chlorine, together with slack requirements for caustic soda, necessitated some companies cutting back their caustic soda output by the lime-soda process, it was reported. Sales of soda ash for chemicals were said to be improving. "Chlorine is still in a fairly tight position," the report stated. "Heavy cylinder requirements are especially responsible, coupled with decreased production in some quarters owing to the long caustic soda position. An abnormally dry and warm July was conducive to heavy chlorine usage for treatment of potable water, bathing beaches, swimming pools and algae treatment, whereas the demand for producing chlorinated products was not excessive."

Paper Production, Canada, by Kinds, 1948-47

Source: Canadian Government Report

Kinds of Paper	Quantity (Tons) 1947	1948
Newsprint	4,474,264	4,640,336
White, in rolls	4,319,483	4,479,562
Coloured, in rolls	37,220	34,145
White, in sheets	82,752	81,011
Coloured, in sheets	5,145	5,483
Side runs for pulping	29,241	39,810
Counter rolls	[1]	[1]
Other newsprint	423	325
Groundwood Printing and Specialty Papers	46,930	72,423
Book Paper	77,687	78,346
Fine Papers	70,505	66,723
Miscellaneous Fine Papers	15,640	14,116
Tissue Paper Other Than Sanitary	12,291	10,417
Sanitary Papers	55,215	59,269
Special Industrial Papers	9,573	9,002
Wrapping Papers	188,742	207,128
Bleached sulphite and bleached sulphate	10,647	12,941
Unbleached sulphite, semi-bleached sulphite and semi-bleached sulphate	9,846	11,762
Unbleached Sulphate		
No. 1 Kraft	136,064	149,424
No. 2 Kraft	8,990	9,389
Miscellaneous furnishes	17,291	17,913
Special papers	5,904	5,699
Building Papers	79,858	88,454
Paper boards	655,765	707,520
Container board		
Liners	175,221	184,524
Container chip	6,047	6,858
Corrugating board	102,655	128,697
Box board		
For folding cartons	147,700	154,745
For set-up boxes	46,184	49,225
Other boards	177,958	183,471
Building Boards	88,612	109,912
Rigid insulating	.....	.....
Other building boards	88,612	109,912
Total, Papers and Boards	5,775,082	6,063,646

[1] Included with "Other newsprint"

Engineers Swing Into Action

NORTH ADAMS, Mass. — Four U. S. Army Engineers on October 20 began preliminary work in connection with a proposed $700,000 flood control project here, on the heels of action by President Truman in signing the Congressional measure which had been supported by paper manufacturers here.

The President's signature went on a bill providing for $350,000 for work both here and in Adams as the start of a program which eventually will cost $20,000,000 to protect this area against floods along the Hoosac River.

The government plans call for channel improvements, including the deepening and widening of the river, raising of walls and levees, and construction of concrete flumes. It will also involve raising, relocating or replacing several bridges and dams here.

Mack Denounces Devaluation

WASHINGTON—Denouncing currency devaluation, Rep. Russell V. Mack (R-Wash.) on October 6 called for curtailment of pulp and paper imports. "In 1940 the United States imported 1,224,750 tons of wood pulp, and in 1948 we imported almost twice that much, or 2,176,111 tons," he said. "During the same period our pulp and paper exports were declining rapidly, having fallen from 480,938 tons exported in 1940 to only 93,782 tons exported in 1948," he continued.

"Further increases in our pulp and paper imports would threaten the stability and full-time operation of our United States pulp and paper industry."

Rep. Mack said protection must be given pulp and paper workers and called for "a protective tariff if necessary."

Dr. Earl G. Hallonquist Appointed

PULLMAN, Wash.—Dr. Earl G. Hallonquist has been appointed to the staff of the Division of Industrial Research of the Washington State Institute of Technology. He will be in charge of a new laboratory and pilot plant devoted to wood technology, Dr. William A. Pearl, institute director, discloses.

For the past four years Dr. Hallonquist has been in charge of the chemical development division of the Plywood Research Foundation at Tacoma. For several years prior to that he was in charge of pulping research at the Central Chemical Laboratory of Rayonier, Inc., at Shelton, Wash.

Universal Log Loaders Incorporated

OTTAWA — Universal Log Loaders, Ltd., has been incorporated as a private company with authorized capital of 10,000 npv. shares.

Canadian Transportation Hearings

OTTAWA—With its schedule including a submission by the Canadian Pulp & Paper Ass'n., the Royal Commission on Transportation, investigating trans-

portation problems in Canada under federal jurisdiction, opened a tentative agenda of seven-week sittings on November 1.

The first week will be spent largely in cleaning up evidence from the Maritime Provinces left in abeyance during the trans-Canada tour last summer and witnesses to be heard will represent Prince Edward Island as well as the Maritime Board of Trade. In the second week, a number of submissions are scheduled, including a brief from the CPPA, Railway Brotherhoods, Canadian Congress of Labor and others.

From November 14 to December 2, the Commission will hear submissions from the Governors of Manitoba, Alberta, Saskatchewan, British Columbia and Nova Scotia, with other interested provinces having already put in their final briefs earlier.

The final two weeks will be devoted to hearing submissions from the Railway Association of Canada and the two major railways.

This agenda is tentative and changes may be made as the hearings continue.

SUPPLIERS . . . . .

Lobdell Co., Wilmington, Del., has been purchased by the United Engineering & Foundry Co., Pittsburgh, it was reported on October 26. The Wilmington plant, located on approximately 11 acres of land, was taken over by the Lobdell United Co., a wholly-owned subsidiary of United Engineering & Foundry Co., on November 1. The sale price was not announced. The new company will continue operations at the Lobdell plant, which manufactures paper mill machinery, calendar stacks, paper and steel mill roll grinders and Nazel forging hammers. Officers of the Lobdell United Co., are: K. C. Gardner, now president of United Engineering & Foundry Co., chairman of the board; G. G. Beard, executive vice-president of United, president; W. Hagel, vice-president in charge of sales of United, and H. A. Laws, former vice-president of the Lobdell Co., vice-presidents; G. V. Lang, treasurer of United, treasurer; and Frank Fitzgerald, treasury staff assistant of the Pittsburgh concern, assistant secretary and assistant treasurer. No further changes in personnel are contemplated, nor will operations at Lobdell be affected. The recent owner and president of the Lobdell Co., is Walter H. Lippincott, who assumed management in February, 1946. Included in the sale were all the buildings on the property except the old factory which has not been in operation for some time. Buildings sold include machine shops, pattern shops, boiler houses, dynamo rooms and an office building.

Hercules Powder Co., Wilmington, Del., will construct a pilot plant in Klamath Falls, Ore., for the study of chemistry of western woods. The chemical company has purchased from the Weyerhaeuser Timber Co., a 50-acre tract on which are several small buildings, a power house, railroad sidings, fire lines and a water tower. Hercules has been conducting research on western woods for the past two years, it was disclosed. Further process research is planned at the new location, according to A. E. Forster, a director of Hercules. "The western woods contain a number of interesting organic chemicals," he said. "These include some of commercial value. Some processing of the wood is necessary before research on the chemicals they contain can be carried on. Depending upon the results of the pilot plant work in Klamath Falls, Hercules may require, at some time in the future, substantial manufacturing facilities in the western states."

Hercules Powder Co., has transferred Fred K. Shankweiler, manager of the company's cellulose products New York office for the past two years, to Wilmington where he will be supervisor of chlorinated products. James R. Yeager has been named to succeed Mr. Shankweiler in New York. Mr. Shankweiler worked at the company's Experiment Station laboratories in Wilmington from 1929 to 1935 and then was transferred to the Paper Makers Chemical Department in 1935.

Gaillet & Hartig Co., Inc., New York, has been named exclusive agent in the U.S., for the Universal Grinding Machine, made in England. This machine was designed primarily for grinding concave and convex cutters, but has been developed into a most versatile grinding instrument for cylindrical, internal and external, taper or parallel grinding, surface grinding and tool grinding for the pulp, paper and woodworking industry.

DeLaval Steam Turbine Co., Trenton, N. J., has opened a new district office in Tulsa, Okla., with Harold Meyer as manager. The firm has also named the Lefler Wymont Supply Co., Casper, Wyo., to represent DeLaval in Wyoming and Montana, and the Roger Brown Co., El Paso, Texas, to represent the firm in southern New Mexico and southwestern Texas.

Powered Logging Equipment Co., Ltd., Ste. 1, 144 West Hastings street, Vancouver, B. C., has been incorporated with authorized capital of $10,000 to engage in the logging equipment business.

Crawford H. Greenewalt, president of the Du Pont Co., declared at a meeting of Wilmington's service clubs at Hotel du Pont on October 28 that "political attrition" against American

LUKENS EXECUTIVES

Robert W. Wolcott, (left) president of the Lukens Steel Co., since 1925, has been elected chairman of the board, and Charles Lukens Houston, Jr., vic-president and executive assistant to the president since February 1948, president of the company. The promotions are retroactive to October 30, which marks the beginning of the company's fiscal year, and its 140th in the business of iron and steelmaking and fabricating in Coatesville, Pa. . . . Mr. Wolcott joined Lukens in 1922, serving first as manager of its warehouse and fabricating division in New Orleans. Mr. Wolcott also served as a director of Lukens and is a director of the American Iron & Steel Institute, the Pennsylvania State Chamber of Commerce, York Corp., Wilmington & Northern Railroad and National Bank of Chester Valley, Coatesville . . . Mr. Houston, a lineal descendant of Isaac Pennock, a founder of the business in 1810, became associated with Lukens in 1939, after ten years with the Armco Steel Corp., Middletown, Ohio. He joined Lukens as director of personnel relations, subsequently becoming president of Lukenweld, the firm's machinery-making division. In 1946, he became executive assistant to the president of Lukens, when Lukenweld and By-Products subsidiaries ceased their corporate existence and were absorbed into the parent company. In 1948, he was elected vice-president of Lukens . . . Mr. Huston for several years was a member of the labor-management committee of the National Ass'n., of Manufacturers, and of the personnel planning council of the American Management Ass'n. He is a director of Penn-Plastics Corp., Glenside, Pa., and of the E. & G. Brooke Iron Co., Birdsboro, Pa. He is also a member of the American Iron and Steel Institute.

WALMSLEY ADVANCED

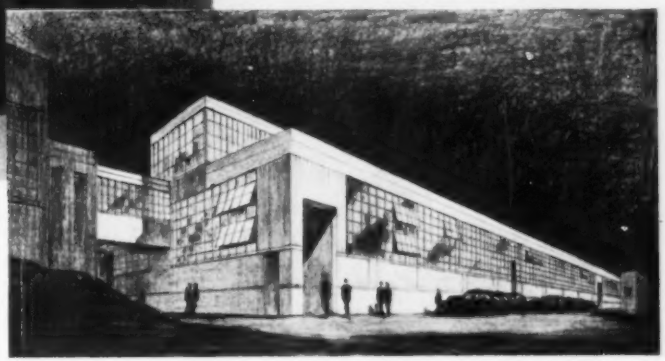
Charles A. Walmsley has been named vice-president in charge of production of the Cameron Machine Co., Brooklyn, N. Y. He joined Cameron in June as special assistant to the president . . . Previously he was works manager of the International Derrick & Equip. Co., Marietta, Ohio.

WESTERN UPS BANNAN

B. A. Bannan has been named general manager of the Western Gear Works, Seattle, and affiliated plants. He continues as vice-president. His headquarters are at Lynwood, Calif.

NEW STARRETT ADDITION GOES INTO OPERATION

Left: L. S. Starrett Co., officers inspect band saw operation in recently completed hacksaw, band saw, band knife and flat stock division plant at Athol, Mass. . . . Left to right in photo are: Allen E. Hastings, treasurer; William J. Greene, vice-president and director of sales; Wallace Findlay, assistant treasurer; and Arthur H. Starrett, president. With this new addition, Starrett manufacturing facilities now provide nine acres of floor space. Right: Architect's rendering of exterior of the new plant . . . Starrett recently added to its lines, band knives for cutting soft or fibrous materials.

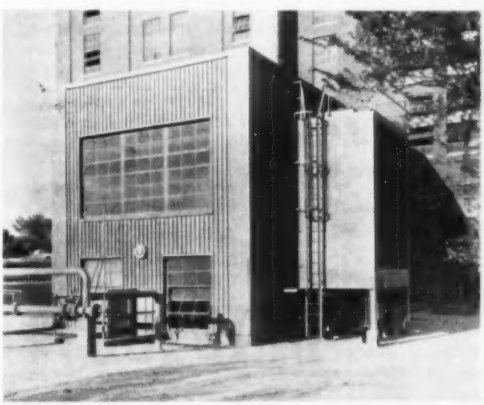


industry must not be allowed to disfranchise "the votes of millions of satisfied customers" whose decision dictates business success. The Lion, Kiwanis, Exchange and Optimist Clubs joined with the Rotary Club at the meeting. Mr. Greenewalt said that it is Du Pont policy to "strive for the largest market, at the lowest price that yields a reasonable return on our investment," and not to seek "the highest price or the highest profit."

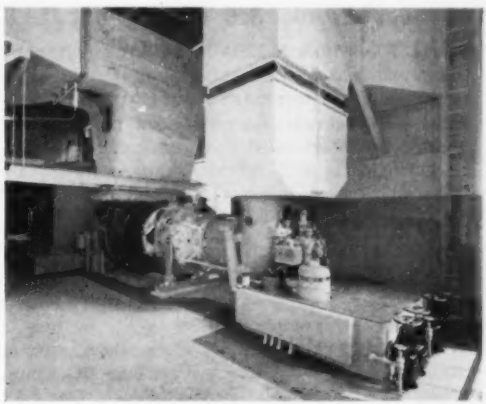
Central Station Gas Turbine

OKLAHOMA CITY — The first public showing of a central station installation of the gas turbine held here recently marked the end of long years of pioneering and the successful beginning of a new chapter in power generation in the United States. The General Electric 3500 kw simple-cycle gas turbine power plant is installed at the Arthur S. Huey Station of the Oklahoma Gas & Electric Co.

As of October 13, in more than 1,500 operating hours, the gas turbine has produced approximately 5¼ million kw hours at an average of 3,557 kw. In announcing the first results of the firing, C. C. Willis, superintendent of generating stations of OG&E, said, "On September 28, the gas turbine permitted a pick-up in total station output from approximately 51,000 kw to 58,000 kw with an over-all improvement in plant operating economy. Of this pick-up the gas turbine carried approximately 4,000 kw and the balance of 3,000 kw was achieved in plant operation. The gas turbine has carried as much as 4300 kw during this time." The gas turbine was shipped to OG&E in March, 1949, and was put on the line July 28. Although it was impossible to fire the turbine during its test at G.E.'s Schenectady plant on natural gas for which it was designed, it has exceeded all expectations since firing, many times operating above its rated capacity, Mr. Willis states.



Exterior, Huey Station, showing the air cleaner and precooler for gas turbine power plant. Simplicity of construction is a notable feature of this installation.



Interior, Huey Station, from compressor end showing air intake, gas turbine, exhaust to heat exchanger and in rear the load end of gas turbine power plant.

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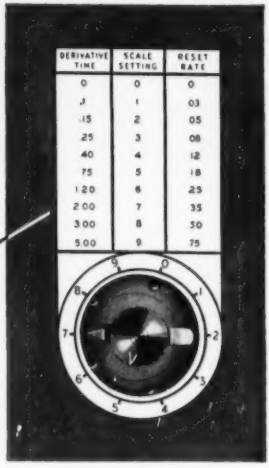

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Operational Difficulties Encountered in Kraft Recovery Unit at Pacific Mills, Limited[1]

By

MORLEY E. PATTERSON[2] and DON B. LOYD

Pacific Mills, Ltd., Ocean Falls, B. C., Canada

For purposes of discussion on operational difficulties encountered, the furnace and precipitator will be considered a single recovery unit. The furnace was installed in 1937 to take the place of old rotary burners; the precipitator in 1945 to give more efficient recovery.

Basic problems stem from the following:

Increased pulp production causing: (1) A decrease in steam per ton produced with an increase in carry over and smelting conditions on the superheater; (2) Increased maintenance on brick and lance doors; (3) Deterioration of working conditions on the lancing decks.

Precipitator corrosion.

Sodium chloride in the system — common foe in heat consumption, slagging conditions, and increased corrosion in the precipitator.

Many proposals are being considered and changes being made to alleviate these problems.

Before discussing these problems, however, a brief description of the Tomlinson-precipitator layout is shown in figure 1. At Ocean Falls we have a horizontal waste heat boiler rather than the vertical type now being generally employed. Hot gases rising from the furnace bed entrain particles of the liquor spray. A great portion of these pass through the screen tubes at the boiler throat and are caught by the closely bundled tubes of the superheater (B) where they collect and smelt. The remaining particles are carried through, some depositing as a scale on the boiler tubes (C), the rest passing to the economizer (D), then the air heater (E), on to the disc (F) and from there to the precipitator (H-I).

Steam Production vs. Carry Over

The most important aspect in dealing with the furnace and boiler is the drop in steam per ton when pulp production as it might be expressed, or liquor feed exceeds the design capacity of the unit. Design capacity indicates a liquor feed of approximately 27,000 lb./hr. whereas now, average feed is 35-36,000 lb./hr.

Design figures show that the hot zone in the furnace would be at the screen tubes of the throat. Now, this zone has moved up so that gases leaving the boiler are 875-900°F. rather than the 800° formerly experienced. Thus radiation losses are greater from the unit. The carry over problem can be traced directly to the area of the hearth in relation to the fuel handled thus limiting air for a high liquor feed. However, this reduced air, giving less combustion and thus less steam, has been beneficial to the smelting efficiency, giving us an average of 97 percent reduction. It helps in maintaining a liquor sulfidity of 23 percent. The quantity of exit gases is 10-15 percent higher for an increase of 30 percent in fuel handled. Since the rate of heat transfer is limited by tube area, we lose more heat. This volume would be higher if better combustion were possible without increasing carry-over. Sodium chloride in the whole system has increased due to a tightening up of salt cake losses which alone causes a dead load in the smelter of 1100 lb./hr. or 5½ percent of the total solids fired. While experimenting we noticed a temporary improvement in carry-over when the precipitator return was cut off, which we feel substantiates our belief in sodium chloride being detrimental to operation. That is, carry-over goes down in proportion to solids fired. Smelting on the super-heater has caused a definite drop in heat transfer in that it lowers the coefficient of the tube surface and restricts gas passages. More carry-over is now fired in per shift causing a temporary bed disturbance which in turn results in temporary blackouts at the back end and increased carry-over immediately following the hand firing.

We were fortunate in receiving assistance from L. D. MacGlothlin, kraft superintendent at Camas, and B. C. Smith, technical assistant to the kraft superintendent at Port Townsend. They recommended and carried out the following experimental work. A liquor heater was introduced in front of the nozzle to bring the black liquor to an optimum temperature of 222-226°F. New secondary air ports were installed below the liquor spray level to improve evaporation and hold the bed level. Initially, the former secondary's or present tertiary's were cut off but this was not satisfactory as all gases came from below the spray thus lifting greater amounts of spray particles upwards to the superheater. Here, they caused a very serious smelting problem. Many different air settings using all three rows of ports have been tried to find the optimum operating points for steam production, carry over, and working conditions. Mr. Smith carried out an overall heat survey and balance and found that the optimum air feed was 111,000 lb./hr. or 99 percent of theoretical air for a liquor feed of 35,500 lb./hr. This is based on the following gas analysis at the boiler throat: CO_2 — 18.1 percent; O_2 — 0.1 percent; CO — 0.6 percent; N_2 — 81.2 percent. The high CO content wastes 2.8 percent of total available heat but further increase in air immediately causes severe carry-over.

Further experiments will be carried out endeavoring to use a larger nozzle at lower pressure with the present air setting. More drying of larger particles in suspension and more actual fuel to burn on the hearth instead of the walls is the underlying theory. In addition to the above, weigh tests and compositions of all superheater and boiler deposits are being taken to determine the feasibility of dissolving in a small tank with wash liquor, the resulting wash going to the dissolving tank — the object being to eliminate hand firing, bed disturbances, additional carry-over and smelting.

Maintenance

Increased maintenance costs have followed increased tonnage. The main items to consider are brick life and lancing door repairs.

Brick life has been reduced by two-thirds since increased production was effected. To illustrate this — in one section of the superheater, three inches of brick were burnt off in six months. Various types of bricks will be used in experimental sections in an attempt to find a satisfactory brick wall. At present, one section of soapstone has been in for three months. Although it is a little early for judgement, the brick appears to be in good condition. High alumina and other refractories will also be tested. High alumina refractory itself has proven very satisfactory at the hot end of our lime kiln. Considering the operating temperature it is hoped it might prove beneficial in the boiler. The necessity for the high operating temperature in

[1] Presented at the 1949 Joint Spring Convention of the Pacific Coast Branch Technical Section, Canadian Pulp and Paper Association and Pacific Coast Division, The American Pulp & Paper Mill Superintendents Ass'n., Inc.

[2] Kraft Pulp Mill Superintendent.

this unit might be explained. The crux of this is power distribution at Ocean Falls — the lake level being the controlling factor. When we have sufficient water to develop more hydro power we can shut down the Tomlinson turbine, put the steam into a 400 lb. header, and feed it into the process. operate efficiently. Therefore in de- This turbine uses a throttle pressure of 580 psi and 700 degrees of heat to veloping power with this unit we lose more through lowered efficiency than is gained in generating 400 psi steam in the Tomlinson. Having sufficient hydro at present, we are now operating at 400 psi rather than 590 with 20-25° lower superheat. Thus we are able to obtain higher fluid flow and reduce film resistance in the tubes. This also means slightly cooler working conditions on the lancing decks.

Maintenance on the lancing doors has at least doubled in the past year. However, the doors have been extensively overhauled to cut down air leak and radiation. Under consideration is the addition of more lancing doors to eliminate all blind rows of tubes, thus facilitate cleaning. The blind spot development arose from the original doors being intended for lower capacity. Now it is not possible to thoroughly clean the boiler or the superheater.

Working Conditions

Conditions on the lancing decks are being greatly improved. Better air distribution by blowers is under way to create a curtain of cold air in front of lancemen as they are working. Also, insulated metal panels of the barn door type are being installed to protect lancemen from the radiant heat. Water cooled strips on the superheater headers are going in to solidify smelt and ease some of the most troublesome lancing; that is, a smooth surface at headers rather than present ridges will enable lancemen to make a clean sweep across the header. In connection with lancing, one or more superheater tubes might be removed so that large pieces of smelt can be removed easily at the opening created.

The heart of the problem lies in design factors for a rated capacity. The hot zone moving back, caused by a higher feed rate, increases the problems of carry-over, heat recovery and working conditions. Additional screen tubes with required headers could be installed at the fire box exit or an additional economizer at the top of the furnace chamber to entrain and solidify more carry-over. Installation of the water cooled blocks it is hoped will greatly improve the cleaning problem. Another possibility is the installation of automatic high pressure soot blowers in the superheater and boiler using superheater steam in removing deposits on the tubes.

Precipitator Corrosion

Before dealing with precipitator problems, we present a brief outline of its operation and design. The Cottrell was designed to operate with good recovery efficiencies handling up to 70,000 cfm and has proven satisfactory with pulp production as high as 175 tons. A recent weight test showed carry-over from the furnace to be 1000 lb./hr. Even at that, the precipitator has been giving recovery efficiencies up to 95 percent. At this time carry-over appeared quite dense — this could have been due to smaller particle size thus packing more in the weighing receptacles. Also different dust characteristics could be attributed to the sodium chloride increase.

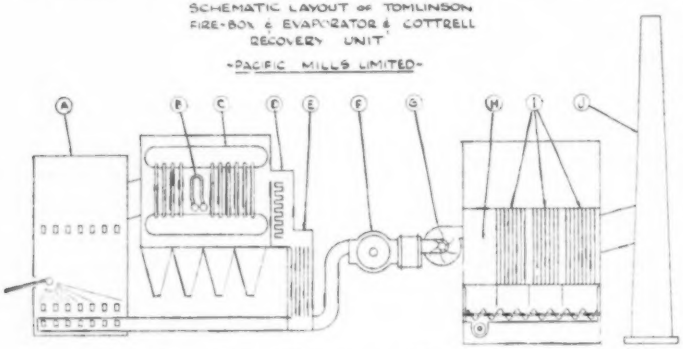


Figure 1. (A) Tomlinson Fire Box; (B) Superheater; (C) Boiler; (D) Economizer; (E) Air Heater; (F) Disc Evaporator; (G) Induced Draft Fan; (H) Settling Chamber; (I) Cottrell Dust Treaters; (J) Stack.

The precipitator treats the gases in two parallel passages or "treaters" each of which has three individual groups of electrodes. Three special high tension transformers and three mechanical converters supply unidirectional current at a potential of 65,000 volts, each converter or rectifier supplying two high tension electrode banks through suitable switch gear and cable. The collected dust is dislodged from the electrode banks by automatic air-operated hammers into hoppers and thence is carried by screw conveyors to the precipitator mixing tank.

Our foe, corrosion, is directly attributed to the following combination: high moisture content in the gases, sodium chloride, sulphur dioxide and air leak in the unit. Gases leaving the air heater contain approximately 0.165 lb. H_2O/lb. dry gas at a temperature of 460°F. Through air leak and evaporation in the disc, the resulting gas leaving the disc contains 0.187 lb. H_2O/lb. dry gas or 23 percent by volume and drops to a temperature of 300°F. Further drop to 245°F. at the precipitator outlet means we have a highly saturated gas leaving the precipitator whose dew point is approximately 150°F. Surface condensation occurs on all walls and is excessive at the outlet. Shut downs lower the temperature to that of the surroundings which in turn increases condensation thus activating corrosion. Add sodium chloride to the condensate and you have an excellent conducting solution due to almost complete ionization of the salt. Electrolytic decomposition is therefore accelerated. Sulphur dioxide in our gases is absorbed by condensate to give a definitely acid solution. Acid alone will have an oxidizing effect on iron through galvanic action.

A cycle of harmful results is set up. Corrosion causes air leak — air leak causes chilling of the immediate vicinity and thus condensation — condensate on your metal with the salts accelerates galvanic action. Air leak is also aggravated by air operated rappers. Compressed air, blowing by the rapper shafts in the treater, has caused increased condensation and thus more harmful erosion on the metal in the area surrounding the pistons. Condensation on the side walls has seeped down the steel hoppers attacking even an alumina coating. Otherwise, the alumina, which was cemented on some time ago to inhibit corrosion, has proven quite satisfactory.

Corrosion has gained such a foothold that it is a major problem in the maintenance of this unit. Steelwork forming the roof of the gas passages has corroded to such an extent that much of it must be replaced. Not only has the roof been affected but the insulator housings as well. Insulator supports have deteriorated to such a degree that warping has occurred. Insulators thus rest unevenly causing unbalanced stresses in the insulator itself. We feel that many insulators have cracked prematurely for this reason alone and have had to carry out extensive replacements which have added to the overall operating costs.

Many inquiries have been sent out regarding the type of metal to be used in replacing the worn parts. Protective spray coatings, the use of Heresite and heating of insulator housings are all being considered.

Suggested materials of construction have been Monel, Inconel and 18–8 stainless steel. Monel is not regarded favorably due to the moist SO_3 and

H_2S gases present in any sulfate system. Copper oxidizes much more readily than nickel, so the SO_3 would probably react giving copper sulfide, thus pitting the Monel. Sodium chloride has a pitting tendency with both Inconel and 18–8 stainless. However, it is felt that the latter two are more desirable. Plastic bonding with Heresite has been used in the dust hoppers and insulator box at Bloedel, Stewart and Welch Kraft Mill in Port Alberni. Although it has been in only two years, no appreciable evidence of corrosion exists. Bonding of a dielectric material such as this would eliminate galvanic action to a very great extent since there could be no surface conducting medium between metal joints such as salt or acid solutions. Passing waste gases from one of our steam generating units through the precipitator would prevent condensation on shut downs. However, this would introduce an operational problem by adding soot to the Cottrell dust.

Sodium Chloride

By this time you have surmised that sodium chloride is a handicap to the whole recovery system. It is initially introduced in our salt water born pulp wood. Hemlock could be the worst offender since the logs sink lower into the water picking up sodium chloride by osmosis. A closing up of the recovery system has caused sodium chloride to build up to considerable proportion, 14 percent of the total as Na_2O in the liquors and 35 percent in the Cottrell return. We are still wondering if equilibrium has been attained between salt leaving the system and salt entering. Any further closing up might cause a more serious sodium chloride increase.

Salt circulates as a dead load in the Tomlinson, precipitator, and the various liquors. It robs heat in smelting, causticizing, cooking and evaporating. It increases the lancemen's work in freeing the boiler tubes of scale. It activates corrosion in the precipitator. Sodium chloride has even been a problem in burning hog fuel.

Investigations and recommendations are now being carried out to remove sodium chloride from the system. To date, samples have been analyzed from all parts of the recovery to determine a selective removal point. Since the percentage is higher in the precipitator, we analyzed saltcake from the various hoppers but have found little difference thus eliminating the possibility of isolating and wasting one section of the recovered dust. Treatment of return dust with sulphuric acid to convert the chloride to saltcake and distill off HCl has also been broached. The main drawbacks here are transportation and equipment costs. Any sulphuric acid remaining in the saltcake tends to form balls which plug the nozzle and puts acid into an alkali system. Leaching the precipitator dust might be a solution if the cost of operation and efficiency were such that it was economically feasible to install such a system.

This concludes a rather brief resume of our operational difficulties. We might add, if any member in this audience has run into similar difficulties, we would be only too glad to hear of your experience and how you solved your problems. We would be very glad to hear from others who have had similar difficulties.

Acknowledgment

In compiling this paper, we gratefully acknowledge assistance received from Pacific Mills Technical Department, Mr. Stan Jemson, Mr. John Rogers, and the use of Mr. B. Smith's heat survey.

Building Versatility Into a Fourdrinier

By

T. A. McARN and L. E. SMITH

Downingtown Manufacturing Co., Downingtown, Penna.

Several years ago we began an exhaustive study of fourdrinier design to determine the features most generally desired. From an analysis of a number of inquiries and investigations we arrived at the only logical answer, which can be stated in a single sentence—

Not only must the machine be simple to operate and maintain, but it must be capable of making a variety of papers from a variety of materials.

It might be said that such a statement should be obvious without any study. But the further we carried our investigation, the more we became convinced that much more could be done than had been done to produce a fourdrinier to meet these specifications.

We then made a further study to decide on the best type of construction for strength, minimum space requirements and ease in changing wires. The result of this study was the choice of the cantilever type of construction. This decision was not an easy one to make, as we knew it would involve considerable engineering. But we believed that if we could produce a successful cantilever type of fourdrinier, thus eliminating such space consuming elements as roll-out frames, swinging tracks, etc., it would not only be easier to operate and maintain, but would also lend itself to more versatile adjustments and would be a much more clean cut machine throughout.

The design of the cantilever frame finally decided upon required the development and later discarding of many ideas which at first seemed good. Hydraulic jacks, gears, and many other mechanisms were considered, but were one by one abandoned as each showed some short coming either due to complexity, lack of strength or space requirements.

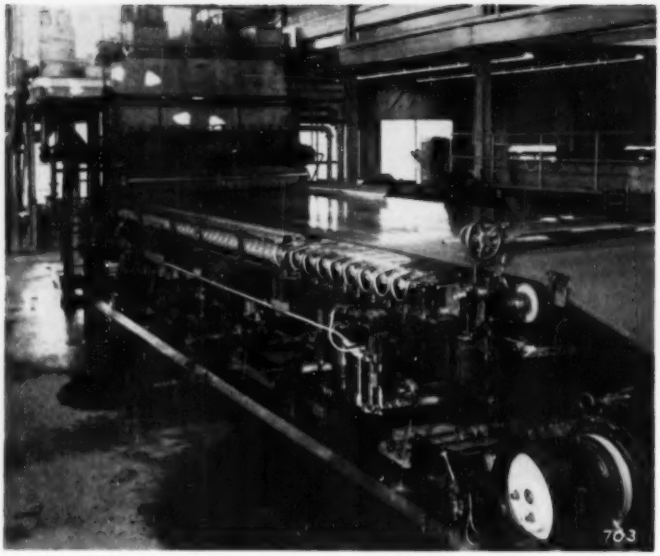
The primary requirement of a cantilever frame is the support of the front side on blocks which can be removed to form gaps through which to pass the wire when changing it, and means of holding the frame up when these blocks are removed. In this fourdrinier we have three cantilever beams of heavy round tube connecting the two dead rails, and extending for some distance beyond the rear dead rail are three welded steel extensions of these beams, the outer ends of which are securely anchored to the floor. On the front sole plate are three wedge type jacks of very low height, all geared together and operated by a single ratchet wrench, so that their heads can be raised or lowered one inch. On top of these jack heads are three removable cast steel blocks which support the front dead rail.

To cantilever the frame, swing bolts holding these blocks are loosened, the heads of the jacks are lowered enough to exceed the natural deflection of the machine, and the three blocks are then freed of any weight and can be pulled out, thus leaving gaps through which to pass the wire. This mechanism successfully met all tests for simplicity, strength and speedy operation.

In the development of the fourdrinier recently installed at Sonoco Products Company in Hartsville, S. C., we were faced with the problem of incorporating certain adjusting mechanisms in the machine, each of which could be used alone or in series or parallel with the others, without interference and with positive action. Also these various adjusting or changing mechanisms had to be designed for manipulation and maintenance by the paper makers without the necessity of calling for engineers or the maintenance department, which meant that many ingenious solutions, no matter how clever they appeared from the viewpoint of machine design, had to be discarded.

Admittedly, some of the adjustments described herein can be classed as unnecessary, as they will seldom if ever be used. Further, those which could be listed as seldom used might be simplified. But if they had not been provided they would most likely be missed, and if they had been made simpler they would probably be criticized as

Presented before the 1949 Fall Meeting of the Northeastern Division of The American Pulp and Paper Mill Superintendents Association, at the Poland Spring House, Poland Spring, Maine.



Fourdrinier and Headbox of Downingtown Machine at Sonoco Products Company, Hartsville, S.C.

being too troublesome to manipulate.

Head Box and Slice

The head box is of stainless steel construction with a manifold inlet, made up of five 8″ connections, controlled individually by rubber pinch valves. These connections bolt to a plate which is in turn bolted to the head box. If it is desired to change the size or spacing or number of openings a new plate can be substituted without necessitating any change in the head box itself.

The vertical partitions in the head box are adjustable up or down for a distance of 4″, which permits changing the flow characteristics from the inlet to the slice. Two stainless steel agitating rolls are built in, and provision is made for the addition of three more if desired by removing cover plates which normally close three openings of the proper size.

Both a high speed slice and a slow speed slice are provided. The high speed slice is designed for speeds above 500 FPM. For lower speeds this slice is raised vertically by a motor to make room for the slow speed slice. The high speed slice front can be adjusted so that the slice lip can be placed from one-half inch behind the centerline of the breast roll to two inches in front of it. The agitating roll just behind it can be moved to hold its relation to the slice front when it is moved. The slice lips on both slices are provided with the usual adjusting screws for levelling the sheet. The making board is adjustable upward to compensate for wear.

Shake Mechanism

The shake rails are stainless steel tubes, and are in two sections. The first section carries the making board and thirteen table rolls, and connects with the breast roll. The second section carries 26 table rolls. Each table roll has a stainless steel deflector.

There are two heavy duty shake units driven by a shunt wound D.C. motor. The first unit connects with the breast roll and first section of the shake rail, imparting a parallel shake to it. The second unit connects with both first and second sections of the shake rail imparting an angular shake to second section. This section of the shake rail is pivoted near the first suction box by a spring type pivot.

The first wire roll in front of the breast roll is connected by a lever arrangement to the shake rail and shakes at half the amplitude of the table rolls and in the same direction. It is believed that such an arrangement adds to the wire life.

The shake units are variable while running from 100 to 300 shakes a minute and from 0 to 5/8″ stroke.

Table rolls are adjustable vertically while running, each roll having individual adjusting screws on front and rear. These rolls can thus be dropped away from the wire when desired, and are also adjustable along the shake rails for variation in spacing.

Tilting Mechanism

The fourdrinier frame is supported on pivots at the breast roll end on four large diameter stainless steel screws. The two screws in the center section are fine pitch and the two at the breast roll end are coarse pitch. These four screws are geared together and operated by a single handwheel on the front side of the machine. With this mechanism the fourdrinier can be sloped while running from one and one-half inch above level to four inches below level at the couch roll end. It is not believed that this mechanism will be used frequently, and naturally a simpler means of sloping the machine could be arranged, but the machine would have to be shut down, and the change would be somewhat troublesome.

Wire Changing

This machine being of the cantilever type, the wire changing rig can be set up and the wire draped in the tending side aisle before shutting down with consequent saving in down time. The wire is draped on two wire carriages which roll on removable tracks and a series of removable poles supported on the front fourdrinier frame and on brackets in the aisle.

The machine is cantilevered as previously explained, the breast roll is dropped down, and the wire pulled into place by cables attached to the two carriages and connected to a winch on the rear of the machine. To minimize the number of operations required in changing wires the following features are incorporated in the design.

The front suction box supports are under the boxes, instead of the boxes being suspended from above. This removes the usual obstructions to the passage of the wire.

All pipe connections to showers, deckle squirts, etc. are on the rear with extended valve stems for control on front side.

The deckle squirt and tail jet assembly is cantilevered on the rear side so it does not have to be removed.

The lump breaker roll and blow roll are mounted on the press section and are swung up for changing the wire. This eliminates their removal.

The wire changing rig works very smoothly, consuming about forty minutes in down time.

Suction Couch Roll

This roll is 36″ diameter and has a bronze shell with 142″ drilled face. It is of the cantilever type with removable block supporting the front bearing housing. The roll is equipped with a double suction box, the first box being 9″ wide and the second is 5″ wide. The wide box is equipped with an L-9 Nash suction pump and carries a vacuum of 15″ Hg. On the narrow box is an H-10 Nash pump carrying 20″ Hg.

Some idea of the advantage of the double box may be obtained from data secured on a test at Sonoco Products Company. With both boxes in operation a sample passing to the press section was 18.4% dry. The wide box was then blanked off and with both pumps on the narrow box the sample was 15.7% dry. An operational shutdown prevented getting a sample with the narrow box blanked off. Enough data was obtained to indicate an in-

crease in capacity with the double box.

A further advantage to the double box is that the rise to high vacuum is accomplished gradually, hence there is less chance of fibres being drawn from the sheet into the wire.

Doctors

All doctors, one on each wire roll and one on the breast roll, are operated by hydraulic oscillators, using oil supplied by a single pump. Both the stroke and frequency can be varied while the machine is running.

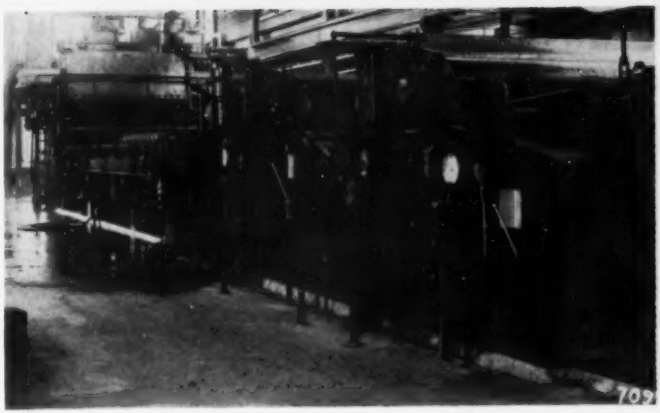
General Features

Two motor operated stretchers provide easy adjustment of wire tension. These can be arranged to maintain any desired wire tension automatically by the addition of a simple tension measuring device.

The save-alls are of corrugated stainless steel, made in sections. These are easily removable without dismantling or removal of rolls. Wire rolls are mounted in quick opening hangers for easy removal.

Conclusion

In closing it might be interesting to include some observations about the actual performance of the slices. The machine was started up with the slow speed slice in operation making 9 point. When the speed was increased to 500 FPM this slice was removed and the high speed slice lowered into position. Shortly after this was done the caliper was increased to 11 point to fill a certain order. This meant slowing down to 268 FPM due to insufficient drying capacity. Surprisingly, the high speed slice worked better at this low speed than the slow speed slice. It made a better sheet, and operated with less slime, lumps, or breaks. So it seems that a feature of versatility has been added that was not originally contemplated. In other words, it has been proved in actual operation that the Sonoco fourdrinier can be operated over a speed range of 270 to 1200 FPM with the same slice.



Fourdrinier and Press section of Sonoco Machine

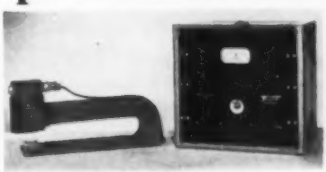
Atomic Measurement Of Paper Thickness

The SM-3 Beta Gauge, the second of a series of industrial measuring and control instruments currently under development using radioactive isotopes, represent one of the first major industrial uses of Oak Ridge produced isotopes.

Essential components of the gauge are a source of beta radiation from Strontium-90 and a radiation detector. The sheet material to be measured is interposed between the source and the detector, and a part of the radiation is absorbed by the sheet material in proportion to its weight per unit area. The Tracerlab Beta Gauge is comparable to a chemical balance in that it will provide the same information as is obtained by weighing on a balance a known area of the sheet material in question. Moisture, clay, chemicals, etc., affect results only in proportion to their weight in the sheet. For all practical purposes, the chemical composition of the sheet being measured does not affect the calibration of the instrument.

One of the most outstanding advantages of these gauges is the fact that since no physical contact is made with the material being measured, there is no marking of delicate or easily marred surfaces.

The instrument is designed for use in small production lines where initial cost must be kept to a minimum and in processes where manual standardization can be carried out without seriously interfering with production. The standardizing procedure with this model requires that the moving sheet material be broken about once every eight hours while the instrument is balanced to compensate for various factors which may have caused it to drift. It will measure the weight per unit area of continuously moving sheets of material up to 700 mg/cm², and provide an indication when manufacturing tolerances are exceeded. The weight (or thickness, if specific gravity is known) information appears on an illuminated 6" panel meter. Provisions are made for the use of a repeating meter as auxiliary equipment.



SM-3 Beta Gauge

Adjustable indicators are provided on the Sensitrol meter mounted on the front panel so that the operator can set his manufacturing tolerances as a function of the Sensi-rol scale. Positive or negative tolerances can be set and, when these are exceeded, a flashing red light (positive) or a flashing green light (negative) appears. Simultaneously, 115 volts a.c. appears on one set of enclosed terminals on the back of the instrument if positive tolerance is exceeded, and on another set of enclosed terminals if negative tolerance is exceeded. The user can therefore wire in auxiliary warning or control equipment.

Typical uses of the Beta Gauge include measuring cellophane and other thin plastic films, paper ranging from heavy board to extremely thin condenser paper less than .0002" thick, sheet metal, thin aluminum foil, textile yarn, and coated textiles such as artificial leather.

Southern Paperboard Corp. Picks Yarway

Southern Paperboard Corp's., new Port Wentworth, Ga., plant has selected Yarway seatless valves made by the Yarnall, Waring Co., Philadelphia, for two widely different services.

On their two 1,500 h.p. oil-fired boilers and one 1,500 h.p. bark-burning boiler, Yarway seatless blow-off valves are used for blow-down.

On the six digesters, each having a capacity of ten tons of paper pulp per charge, Yarway seatless digester valves, motor operated, are performing yeoman service.

These valves are particularly suited for both jobs because of the unique seatless feature.

Reliance Developments For Paper Process Control

Developments in paper processing control techniques and refinements in control devices have been particularly marked during the past few years.

Highly representative examples of this accelerated and continuing progress are two control devices—the VSS Short-Stroke Dancer Roll and the VSC Electronic Excitation Control System—both developed by the Reliance Electric & Engineering Company, Cleveland, Ohio.

Constant Tension Control

Specially designed as a constant tension control for loops of material in process, the Reliance VSS Short-Stroke Dancer Roll incorporates a reactor which is linked to a dancer roll supported by the web of paper being processed by two sections of the machine. Since any speed change in one section relative to the other moves the loop of material, causing the reactor plunger arm to move, output of the unit changes correspondingly, thereby either decelerating or accelerating one of the sections to restore the proper speed and tension relationship between each section of the machine in question. The tension in the web is assured of remaining constant, as this tension is produced by the weight of the dancer roll being supported by the web.

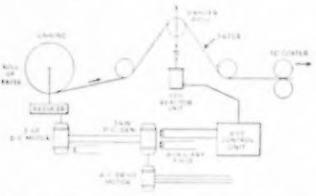


Fig. 1. Schematic diagram of a representative application of the Reliance VSS Short-Stroke Dancer Roll for "feather-touch" tension regulation, with unit used to maintain constant tension at the unwind end of a plastic coater.

One typical VSS application (see Figure 1) is to maintain constant tension at the unwind end of a plastic coater. In the installation illustrated, the paper unwind reel is driven by a 3-hp. d.c. motor speed of which is changed by varying the output voltage of a 3-kw. d.c. generator. Output of this generator in turn is controlled by varying its field. It is this field which the VSS excites.

In this particular application, the generator has an auxiliary field of constant strength and in opposition to the VSS field. By means of this arrangement, resultant field strength of the generator can vary from maximum in one direction through zero to a small value in the other direction. Generator voltage thus can be changed, causing the unwind motor to act as a motor or drag generator; and stalled tension can be obtained by the reversed generator polarity. Responsive to web tension, the reactor unit of the VSS controls the unwind motor speed to maintain proper tension throughout the paper roll unwinding cycle from full roll to empty core, over the entire speed range of the drive.

Specific advantages claimed for the VSS in "feather-touch" tension regulation by Reliance engineers include: (1) Exceeding small effort moves plunger of reactor unit; (2) Adaptable to variety of displacements and equally suitable for large or small displacements; (3) Infinite adjustment: resulting adjustment is smooth with no steps throughout range; (4) No maintenance problems since there is no wearing of contact parts; (5) Stable control with anti-hunt control provided where necessary; (6) Easy adjustment for wide range of field control for a given displacement.

Timed-Rate Acceleration and Deceleration

The VSC Electronic Excitation Control System marks another significant development in paper processing control devices designed within the past few years by Reliance Electric engineers.

Developed to take advantage of the economics of the conventional rotating motor-generator set as an a.c.-to-d.c. power converter in the larger horsepowers, as well as to provide the flexibility of electronic control, this device was directly prompted by Reliance's experience in building variable-voltage a.c.-to-d.c. systems utilizing converters of both the rotating and electronic types.

Strictly on this basis, according to Reliance engineers, a full electronic power rectifier would be excessively high, both in first cost and tube replacement cost. On the other hand, electronic systems do provide extreme functional control flexibility, which makes it possible to obtain complex control functions with relatively simple and low-power electronic circuits properly employed in control rather than in power functions.

For example, used as packaged with a Reliance V*S Drive power unit, the VSC (illustrated in Figure 2) provides the functions of excitation, preset speed with definite controlled time acceleration and deceleration, and combined voltage and field control with full motor field strength when operating in the voltage control range. Either dynamic or regenerative braking can be incorporated, or both can be combined. Also, programming and push button-operated, pre-selected speeds may be easily obtained.

In addition to providing these basic functions, the types of control circuits used in the VSC unit are designed to effect an improvement in the overall speed regulation of the motor drive, compared to the hysteretic effects produced when using a rheostat for speed setting.

Through simple internal adjustments, the VSC can be adapted to cover volt-

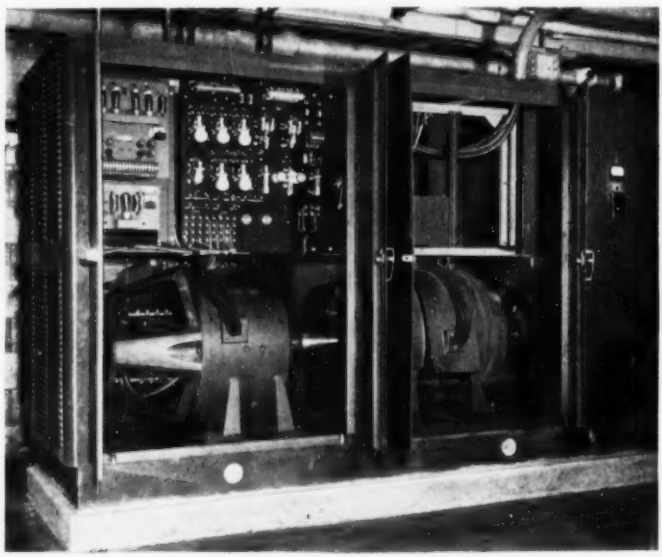


Fig. 2. Control panels of the Reliance VSC Electronic Excitation Control System mounted as part of the packaged Reliance V-S Drive Power Unit.

age control only, or voltage and field control up to a 4:1 motor field range, without change of component parts. Consequently it is necessary to provide a unit with sufficient current capacity for the fields involved. It can be adapted for any speed range, and acceleration and deceleration rates are easily adjusted over a wide range.

VSC circuits are applicable to five major control problems:

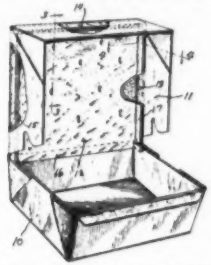
Various other improvements and refinements have been made in pulp and paper processing control devices since the war, of course. But the three examples specifically cited may be said to reflect in large measure the principal advances achieved in this direction.

Patent Abstracts

● ***In addition to abstracts on the technology of pulp, paper and related industries, miscellaneous abstracts which may provide useful information are included.***

2,470,465—Frozen Food Package. Frank L. Broeren, George E. Wauda, and Robert Kuehl, Neenah, Wis., assignors to Marathon Corporation, Rothschild, Wis. Filed July 26, 1946—Issued May 17, 1949.

A frozen food package comprising a recep-



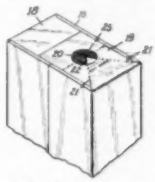
tacle portion filled with frozen food, and a cover portion, said cover being provided with an exposed moisture-absorbent layer on the inner face thereof and in direct contact with said food, said absorbent layer being substantially saturated with water and frozen for sealing the said food within said receptacle portion.

2,470,764—Method of Treating Waste Sulfite Liquor. Thomas Leonidas Dunbar, Watertown, N. Y. Filed September 23, 1943,—Issued May 24, 1949.

A process of producing cellulosic pulp which comprises digesting cellulosic material with sulphite liquor in a digestion zone, withdrawing spent liquor from the zone after completion of the digestion; treating the spent liquor with an oxidizing agent separating the solid material which is formed from the liquor, treating said liquor with a precipitating agent, separating the clear liquor from the precipitate, and employing the separated liquor for digestion.

2,470,789—Siftproof Bag. Frank D. Palmer, Chicago, Ill., assignor to Frank D. Palmer, Inc., a corporation of Illinois. Filed November 26, 1945—Issued May 24, 1949.

A package comprising inner and outer receptacles, the inner receptacle having a closure embodying an ear having separable plies of material respectively extending from a pair of walls of the receptacle and united around the free edges of the ear, the outer receptacle having a closure embodying a plurality of flaps successively folded over and adhesively secured to one another to form an end wall for the package, said ear of the inner receptacle being folded into position between the outermost and an inner end wall flap, said ear having a portion projecting beyond an edge portion of said outermost flap so as to be accessible for direct manual gripping and unfolding to a projecting, spout-forming position, said ear being adapted to have an end portion



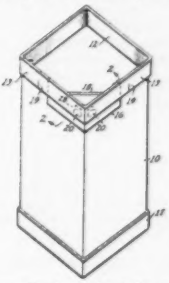
thereof severed therefrom so as to permit separation of the plies of the ear to form a tubular dispensing spout communicating with the interior of the package.

2,471,039—Manufacture of improved Fibrous Materials and the Materials Thus obtained. Ludwig Orthner, Gerhard Balle, and Heinz Schild, Frankfort-on-the-Main, Max-Otto Schürmann, Dormagen, and Karl Brodersen and Matthias Quaedvlieg, Dessau, Germany; vested in the Attorney General of the United States. Filed February 26, 1941—Issued May 24, 1949.

The process of improving cellulose fibrous materials distinguished by a soft and agreeable feel without the usual treatment with softening agents which comprise incorporating with the aqueous cellulose spinning solution colloidal alkali compounds of a sulfonic acid amide obtained by the simultaneous action of chlorine and sulfur dioxide on a mixture of saturated aliphatic hydrocarbons boiling from 240° C.-340° C. formed by the reduction of carbon monoxide, and subsequent reaction with ammonia, said sulphonic acid amids being insoluble in alkali carbonates and being uniformly subdivided in the interior of the fiber. Cellulose fibrous materials distinguished by a soft and agreeable feel without the usual treatment with softening agents and having uniformly distributed therethrough a colloidal sulfonic acid amide being insoluble in alkali carbonates and obtained by the simultaneous action of chlorine and sulfur dioxide on a mixture of saturated aliphatic hydrocarbons boiling from 240° C.-340° C. formed by the reduction of carbon monoxide, and subsequent reaction with ammonia.

2,471,017—Container. Isaac L. Wilcox, Fulton N. Y., assignor to Oswego Falls Corporation, Fulton, N. Y. Filed December 4, 1946—Issued May 24, 1949.

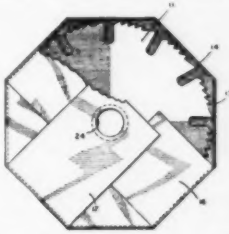
A container comprising a body member formed of sheet fibrous material, an end closure having an inverted peripheral channel engaging the inner and outer surfaces of the top edge portion of the body, one of said members being provided with an adhesive material effective to permanently and fixedly seal the channel portion of said end closure member to the contiguous portion of the body member, a strip of material interposed between a portion of said channel member and the contiguous portion of the body member and being non-sealable to said members, said unsealed portion of the top closure mem-



ber being movable from the body to provide a pour opening, that portion of the strip lying between the confronting surfaces of the outer wall of the channel and the body being formed with a cut-out to permit a small area of the outer wall of the unsealed portion of the channel member to seal to the body, said seal being effective to hold said unsealed portion of the channel in liquid tight engagement with the top edge of the body.

2,471,173—Fiberboard Container for Disk-shaped Articles. William H. Taylor, Lake Bluff, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill. Filed July 27, 1945—Issued May 24, 1949.

In a container for a fragile disk, a structure formed of a single fibrous board profiled to afford a symmetrical polygonal center panel having an even number of sides, at least six in number, and a plurality of radially extending fringe panels,



said center panel being of an area to encompass the disk to be packaged so that its polygonal sides are tangential to the circumference of said disk the fringe panels being on continuous fold lines and comprising alternate rectangles and trapezoids completely surrounding the center panel, said trapezoidal panels and its adjacent rectangular panels being of such areas and angularity that, when a trapezoidal panel is folded in overlapping relation to the center panel, it will cover a corresponding section of said center panel bounded by three sides of the center panel which form boundaries respectively between the center panel and said trapezoidal panel and its two adjacent rectangular panels, said overlapped portion of the center panel being substantially a replica of said trapezoidal panel, and securing means on a pair of opposed rectangular fringe panels whereby, upon being last folded over, said pair

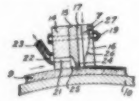
of fringe panels effect retention of the other fringe panels.

2,471,272—Water-Soluble Cellulose Ether Plasticized with a Cyclomethylene Sulfone. George W. Hooker, Sarnia, Ontario, Canada, and Norman R. Peterson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich. Filed July 28, 1945—Issued May 24, 1949.

A composition of matter consisting of a water-soluble cellulose ether, and from 10 per cent to about 67 per cent of a compound selected from the group consisting of 3,4-dehydro-cyclotetramethylene sulfone, the 3-methyl derivative thereof, cyclotetramethylene sulfone, and the 3-methyl, 3-alkoxy-, and 3-methyl,4-alkoxy derivatives of cyclotetramethylene sulfone, wherein the alkoxy groups contain from 1 to 8 carbon atoms, inclusive.

2,471,330—Method of Continuously Coating Porous Sheets. George D Knight and Ben W. Rowland, Appleton, Wis., assignors to The Institute of Paper Chemistry, Appleton, Wis. Filed February 17, 1947—Issued May 24, 1949.

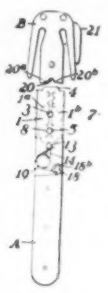
The method of continuously coating a porous sheet, which comprises, evacuating fluid ingredi-



ents from a region adjoining and within a surface of the sheet, removing the evacuated region from the zone of evacuation to a coating zone and promptly thereafter applying fluent coating substance to said removed region under at least atmospheric pressure before direct exposure of the region to the ambient atmosphere, and relatively moving the sheet and the evacuation and coating application zones to enlarge the coated area.

2,471,334—Paper Cutter. Henry H. Levin, Newark, N. J. Filed October 20, 1947—Issued May 24, 1949.

A utility tool comprising a handle; an elongated flat bar extending rigidly therefrom; a



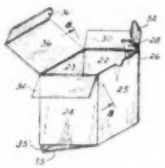
double-edged thin detachable cutting blade mounted immovably on said bar adjacent its extremity; a guard pivoted to said bar and having a notch in its rear end, a latch axially slidable in an elongated slot in said bar; and a spring urging said latch forwardly to normally retain it in said notch and thereby maintain said guard in alignment with said bar to cover both cutting edges of said blade: said latch being adapted to be finger-pressed to the rear out of said notch to permit said guard to swing either to the right or left to expose the tip of either edge of said blade.

2,471,497—Bonding Cellulose Surfaces. Robert Pierce Roberts and Kenneth Jones, Spondon, near Derby, England, assignors, by mesne assignments, to Celanese Corporation of America, a corporation of Delaware. Filed June 3, 1943—Issued May 31, 1949.

Process for bonding together surfaces of material compound substantially of cellulose which comprises applying to said surfaces a composition containing polyvinyl alcohol, formaldehyde and hexamethylene tetramine the molecular ratio of formaldehyde to CH_2CHOH groups of polyvinyl alcohol being between 1.15:2 and 1.5:2 and the proportion of hexamethylene tetramine employed being 2 to 5% on the weight of polyvinyl alcohol, bringing the surfaces together, and effecting acetalization of the alcohol by the aldehyde under the influence of heat so as to form in situ a strong bond uniting the surfaces.

2,471,883—Box and Corner Lock Therefor. Paul W. Miessler, Lakewood, Ohio, assignor to The Hankins Container Company, Cleveland, Ohio. Filed November 22, 1946—Issued May 31, 1949.

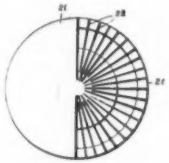
A box blank of paperboard or the like including a series of side panel portions in adjoining relation, an overlap flap extending from the



free end of one of the outer side panels of said series, corner lock tabs extending laterally from the opposite sides of said overlap flap and having inner edge portions disposed immediately adjacent the junction of said overlap flap and said one of said outer side panels, top and bottom end flaps extending laterally from the opposite sides of the other outer side panel of said series, and corner interlocking tabs extending longitudinally from the outer ends of each of said end flaps.

2,471,932—Molded Pulp Apparatus and Method. Merle P. Chaplin, South Portland, Maine. Continuation of application April 5, 1937. Filed December 23—Issued May 31, 1949.

A die for forming fibrous pulp articles from a mixture of fibres and water, comprising a perforated moulding portion and an imperforate



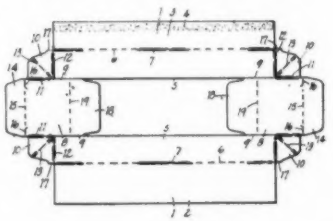
chamber forming portion, a forming screen presenting a shoulder of such shape and size as to limit and maintain the thickness of the moulded article at its edge reduced with respect to the thickness of the main wall of the article. The method of producing a molded pulp article which consists in depositing a pulp article on a suitable forming die, thereafter transferring the thus formed article to and between a pair of co-operating pressure dies, one of which is a smooth surfaced imperforate die directly contacting with one suface of the article and the other of which is a smooth surfaced die also directly contacting with the article and having in its smooth article contacting surface narrow vapor escape ducts of a depth greatly exceeding their width and extending in the direction of the draw of this pressure die, forcing said pressure dies against the opposite faces of the article under sufficient power to force portions of the article which are in juxtaposition with said ducts to project into and for a portion only of the depth of the latter and form on said article propecting ribs, and heating at least one of said pressure dies while the article is under compression between them to heat-dry said article at least sufficiently to render the resulting structure permanent.

2,472,335—Method of Flameproofing Combustible Cellulosic Material. Andrew McLean, West Kilbride, and Stanley Frederic Marrian, Ardrossan, Scotland, assignors to Imperial Chemical Industries, Limited. Filed November 15, 1945—Issued June 7, 1949.

A method as claimed in claim 1 wherein the cellulosic materials used for treatment with the pentaerythritol tetra-orthophosphate have been impregnated with an aqueous 8% to 12% polyethyleneimine solution.

2,472,516—Carton. Kenneth T. Buttery, Kalamazoo, Mich., assignor to Sutherland Paper Company, Kalamazoo, Mich. Filed July 12, 1946—Issued June 7, 1949.

A collapsible box formed of a single blank scored and slit to provide hingedly connected bottom and side and end walls, the bottom com-



prising complementary bottom members disposed at the ends of the blank and overlapped and adhesively secured together, the side walls being hingedly connected in the blank to the inner edges of the bottom members, the end walls being disposed in the blank between the inner edges of the side walls, said side walls and end walls being connected only by foldable corner members, said corner members being foldable upon the inner sides of the end walls, the end walls being a greater width than the side walls and having tucking flaps at their outer edges in the blank, the tucking flaps being disposed between the bottom and the lower edges of the corner members when the box is erected, there being slits at the ends of their hinge connections to the end walls, the corner members having lugs engaging said slits when the end walls are erected, the end walls being provided with wrapping supporting flaps on their inner edges in the blank, the portions of the end walls which extend above the upper edges of the side walls and the said wrapping supporting flaps being formed of stock between the inner edges of the side walls in the blank.

FINANCIAL RECORD

PREFERRED STOCKS	Per Share Earnings: Calendar Year 1948	Per Share Earnings: 12 Mo. to Approx. 6/30/49	Indic. Annual Divid. Rate	Nov. 1 Approx. Market Price
Armstrong Cork Co. $3.75 Cum.	$46.33*	$38.47*	$3.75	$99
Armstrong Cork Co. $4.00 Cum. Conv.	46.33*	38.47*	4.00	113¾
Celotex Corp. 5% Cum.	26.42c	10.33p	1.00	17⅛
Champion Paper & Fibre $4.50 Cum.	99.97f	19.91j	4.50	97½
Container Corp. of Amer. 4% Cum.	105.41	90.43a	4.00	99¼
Crown Zellerbach $4.20 Cum.	63.92i	61.00p	4.20	101½
Crown Zellerbach $4.00 Cum. Conv. 2nd	60.56i*	57.90p*	4.00	99
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.10	10.04	2.50	50⅝
Flintkote Co. $4 Cum.	83.25	66.07	4.00	102⅜
Robert Gair Co., Inc. 6% Cum.	17.08	12.88a	1.20	17⅛
International Paper Co. $4 Cum.	263.00	254.71	4.00	102⅜
Johns-Manville $3.50 Cum.	209.89	204.89a	3.50	115½
Kimberly Clark Corp. 4½% Cum.	80.74	74.36	4.50	101
Kimberly Clark Corp. 4% Cum. Conv. 2nd	41.59*	44.25*	4.00	102¼
MacAndrews & Forbes 6% Cum.	62.23	64.10a	6.00	138½
Mead Corp. 4¼% Cum.	73.46	68.78k	4.25	93½
Mead Corp. 4% Cum. Conv. 2nd	29.91*	24.30k*	2.00	34
Paraffine Cos. Inc. 4% Cum. Conv.	156.11	136.31	4.00	103
Rayonier Inc. $2 Cum.	16.43	13.99	2.00	30¼
St. Regis Paper Co. 4.40% 1st A	79.90	34.21a	4.40	83¾
Scott Paper Co. $3.40 Cum.	59.06	55.14	3.40	97
U. S. Gypsum Co. 7% Cum.	314.45	296.82	7.00	186½
United Wallpaper Inc. 4% Cum. Conv.	(d)0.79	15.43a	2.00	25¼
West Virginia Pulp & Paper 4½% Cum.	79.45c	69.93p	4.50	107¾
COMMON STOCKS				
APW Products Co.	$0.73	(d)$0.56	(m)	3¾
American Writing Paper Corp.	(d)0.15	0.05a	$0.25	6⅛
Armstrong Cork Co.	7.54	6.13	3.00	47¼
Celotex Corp.	7.21c	2.75p	1.00	18⅜
Certain-Teed Prods. Corp.	4.02	3.21	1.00	14
Champion Paper & Fibre	8.70f	1.70j	2.00	27⅜
Congoleum Nairn Co.	5.78	4.92	2.25	29¾
Container Corp. of America	10.12	8.50a	4.50	40⅛
Crown Zellerbach	7.16i	6.68p	2.00	27½
Dixie Cup Co.	6.70	6.65	1.50	33½
Eastern Corp.	4.76	1.27	(h)	14¼
Flintkote Co.	5.86	4.40	2.50	28⅛
Robert Gair Co. Inc.	2.67	1.96a	0.70	7
Great Northern Paper Co.	4.63	5.32	2.80	38⅞
International Paper Co.	16.73	16.19	5.00	64⅜
Johns-Manville Corp.	5.22	5.07a	2.00	43⅛
Kimberly Clark Corp.	5.02	4.55	1.65	24⅝
MacAndrews & Forbes Co.	3.68	3.79a	2.50	36¼
Marathon Corp.	4.11e	3.42	1.40	23⅜
Mead Corp.	6.36	5.84k	1.00	13⅜
National Container Corp.	2.28	1.38	0.40	7½
Paraffine Cos. Inc.	2.45	2.14	1.20	17¾
Rayonier, Inc.	9.09	7.55	2.00	23⅜
Ruberoid Co.	11.80	9.48	3.25	57
St. Regis Paper Co.	2.71	1.02a	0.60	7⅛
Scott Paper Co.	4.15	5.02	3.00	62¼
Sutherland Paper Co.	6.02	5.12a	2.50	36¼
Union Bag & Paper Corp.	9.17	5.36a	3.00	26⅞
United Board & Carton	2.04b	(d)1.72g	(e)	8¼
U. S. Gypsum Co.	15.04	14.18	6.00	100¾
United Wallpaper	(d)0.10	0.42a	(n)	3⅛
West Virginia Pulp & Paper	11.33e	9.70p	3.00	44½

(a) 12 months to approximately 9/30/49
(b) Year ended 11/23/48
(c) Year ended 10/31/48
(d) Deficit
(e) Omitted dividend 2/4/49
(f) 11 months to 3/31/49
(g) 12 months to approximately 8/20/49
(h) Directors took no action on August, 1949 dividend—last payment 5/2/49
(i) 12 months to approximately 1/30/49
(j) 3 months to 6/30/49
(k) 12 months to approximately 6/12/49
(m) Directors took no action on July, 1949, dividend—last payment 1/10/49
(n) Last payment 25c, 9/16/47
(p) 12 months to approximately 7/31/49
(*) Earnings per combined preferred shares.

Dividends Declared

Diamond Match Co., on October 27 declared a regular quarterly dividend of 37½ cents a share and an additional dividend of 50 cents a share on its common stock. Also a participating dividend of 50 cents a share on its preferred stock. These dividends are payable December 1, to holders of record November 10.

Marathon Corp., has declared a common stock dividend of 35 cents a share, payable November 30, to holders of record November 10, and a preferred dividend of $1.25 a share, payable January 2, 1950, to holders of record December 20, 1949. Amounts of both dividends are net after provision for Wisconsin privilege dividend tax.

S. D. Warren Co., has declared a dividend of 35 cents per share on its common stock, and a dividend of $1.13 per share on its $4.50 cumulative preferred stock, both payable December 1 to holders of record November 12.

Donohue Brothers, Ltd., has declared a dividend of 25 cents per share on its common stock, payable December 1, to holders of record November 15.

Offering Combined Locks Shares

NEW YORK — A public offering of 50,000 outstanding Class A common stock shares of the Combined Locks Paper Co., Combined Locks, Wis., was being made on October 31 by Hemphill, Noyes, Graham, Parsons & Co., acting for certain holders of the stock, including John F. Cuneo of Chicago, who is a director and member of the executive committee of the paper company. This is the first public offering of Combined Locks Paper Co., stock.

Acquires Common Stock Interest

CHICAGO—Pulp & Paper Industries, Inc., has bought the common stock interest of the Nu-Enamel Corp., in the Nu-Enamel Oil Corp., for $520,438. This is $80,000 less than the figure stipulated in a previous sale contract, which was blocked by a stockholder group who obtained a court order last March.

Building

- FOR THE PAPER
- INDUSTRY

We design, build, and equip paper and pulp mills ... steam generating plants ... and facilities for eliminating stream pollution.

Under one contract and one responsibility, we deliver jobs complete, ready for operation.

We also furnish engineering reports and surveys. Current cost data available at all offices.

The H.K. Ferguson Co.
INDUSTRIAL ENGINEERS AND BUILDERS

THE FERGUSON BUILDING • CLEVELAND, OHIO
OFFICES IN NEW YORK, HOUSTON, CHICAGO, CINCINNATI AND LOS ANGELES

PRICES

The prices below reflect general market quotations applying to those standard grades in which the normal volume of business is being done.

NEW YORK

Delivered New York

Standard News, per ton—

Rolls, contract	$100.00/	—
Sheets	115.00/	—

F.o.b. Mills, Carload freight allowed, dock N. Y.

Kraft— per cwt., 40# base wgt.

Standard Wrapping Rolls	$6.50/	—
No. 1 Wrapping Rolls	7.25/	—
Standard Bag	6.00/	—

Tissues— per ream 24x36 (480) 10 lbs. 2500 lbs. or more

Wh. No. 1 Frd.	$155.00/	—
Wh. No. 1 M. G.	150.00/	—
Wh. No. 1½	140.00/	—
Wh. No. 2	120.00/	—
Kraft Anti-Tar	1.37½/	—
Shrd. Wh. No. 1 per lb.	.11½/	—

Toilet— per case of 100 rolls—1 M sheets.

Unbleached 4½x4½	$5.75/	—
Bleached 4½x4½	6.95/	—
Bleached 4½x5	8.80/	—
Per Case of 50 rolls—2000 sheets		
Unbleached 4½x4½	$5.75/	—
Bleached 4½x4½	6.80/	—
Per Case of 100 rolls—1000 sheets		
Facial, 4½ x 5, 2 ply	$8.95/$9.45	

Paper Towels—per case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½	$5.25	
Br. Sr. M'tif'd 10x12	3.60	
Br. Jr. M'tif'd 9½x9¾	3.10	
Br. Jr. Sgl. fold 10x10¾	3.15	
Blchd. 7½ x 11, 24/25 rolls	$3.95/$6.25	

Manila, per cwt.

No. 1 Jute Tag 40 lb., sheets*	$15.05/$17.50	
Reg. Jute M.F. Manila, sheets*	13.50/ 15.50	
Wrapping Manila	8.75/ 10.50	
Printing Manila	10.00/ 11.00	

* Less usual allowance for rolls.

Boards, per ton—

Filled News	$77.50/	—
Plain Chip	75.00/	—
Blchd. Mla. Ld. Chip*	92.50/	—
White Pat. coated*	110.00/	
Kraft Liners 42 lb.	100.00/	
Kraft Corr. .009	105.00/	
Binders Boards	110.00/116.00	

* Base Prices per 10 tons. Less than 10 ton but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

WORLD WOOD PULP MARKETS

Fourth Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered, with varying freight allowances		On dock Atlantic Ports Full freight allowance		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$65.00/ —	$65.00/ —			
Soda, Bleached	113.00/ —	113.00/ —		Competitive	
Sulphate, Bleached	118.00/126.00	126.00/ —	125.00/128.00		
Sulphate, Unbl'd North'n		82.50/105.00	82.50/ 85.00	with	
Sulphate, Unbl'd South'n	80.00/ 82.50				
Sulphite Blchd. (S'ftw'd)	118.00/ —	118.00/ —	118.00/ —	Domestic	Competitive
Sulphite, Blchd. (H'dw'd)	113.00/ —				
Sulphite, Unbleached	100.00/ —	100.00/ —	100.00/ —	Grades	
Sulphite, Unbl'd (Glassine)	105.00/ —	105.00/ —	104.00/105.00		

WASTE PAPER MARKET

Prices to Mills*, (Per Ton) F.o.b. Cars Shipping Point

	New York	Philadelphia	Boston	Chicago
	Oct. 26	Oct. 3	Nov. 1	Oct. 1
No. 1 Mixed Paper	$7.00/ $9.00	$7.00/ $9.00	$7.00/ —	$10.00/ —
Boxboard Cuts	7.00/ 9.00	6.00/ 7.00	— / 5.00	13.00/ —
Mill Wrappers	11.00/ 12.00	10.00/ 12.00	— / 9.00	12.00/ —
No. 1 News	10.00/ 11.00	9.00/ 10.00	9.00/ 10.50	16.00/ —
Over-issue News	14.00/ 15.00	12.00/ 14.00	8.00/ 10.50	19.00/ —
Corrugated Containers	15.00/ 17.00	17.00/ 18.00	14.50/ 15.50	20.00/ —
New Corrugated Cuts	18.00/ 20.00	20.00/ 23.00	16.00/ —	23.00/ —
Double Kraft Ld. Corr. Cuts	34.00/ 35.00	30.00/ 35.00	25.00/ —	35.00/ —
Used Kraft Bags	25.00/ 30.00	18.00/ 22.00	25.00/ 30.00	20.00/ —
No. 1 Brown Kraft Paper	25.00/ 30.00	25.00/ 30.00	30.00/ 35.00	20.00/ —
Super Resorted Br. Kraft	30.00/ 35.00	35.00/ —	40.00/ —	35.00/ —
New Br. Kraft Env. Cuts	65.00/ 70.00	60.00/ 65.00	60.00/ 65.00	55.00/ —
New Br. Kraft Cuts	40.00/ 45.00	55.00/ —	45.00/ —	50.00/ —
No. 1 Gdwd. Shvs.	15.00/ 20.00	15.00/ 20.00	25.00/ —	26.00/ —
White Newsblanks	50.00/ 55.00	40.00/ 45.00	50.00/ 55.00	35.00/ —
No. 1 Flyleaf Shvs.	25.00/ 30.00	20.00/ 25.00	35.00/ 45.00	35.00/ —
No. 1 Soft Wht. Shvs.	75.00/ 80.00	60.00/ 65.00	70.00/ 80.00	55.00/ —
Super Soft Wht. Shvs.	90.00/100.00	65.00/ 70.00	80.00/ 90.00	60.00/ —
Hd. Wht. Shvs.	85.00/ 95.00	80.00/ 85.00	80.00/ 90.00	80.00/ —
Hd. Wht. Env. Cuts.	100.00/110.00	90.00/ 95.00	90.00/105.00	90.00/ —
New Manila Env. Cuts.	65.00/ 70.00	60.00/ 65.00	60.00/ 70.00	55.00/ —
Col. Tab Cards	30.00/ 35.00	20.00/ 25.00	35.00/ —	40.00/ —
Manila Tab Cards	65.00/ 70.00	60.00/ 65.00	75.00/ 80.00	65.00/ —
No. 1 Mixed Ledger	30.00/ 35.00	27.50/ 32.50	37.50/ —	40.00/ —
White Ledger	45.00/ 55.00	37.50/ 40.00	50.00/ 60.00	50.00/ —
Mixed Books & Mags.	7.00/ 8.00	9.00/ 10.00	12.00/ —	7.00/ —
No. 1 Rep'd Hvy. Books & Mags.	20.00/ 25.00	15.00/ 20.00	22.00/ 23.00	20.00/ —

* Includes brokers' fee.

The following prices are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—

White, 20 lb.

Bonds

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$51.40/$53.90
100% Rag	44.55/ 46.15
75% Rag	33.90/ 35.40
50% Rag	28.10/ 29.55
25% Rag	24.85/ 26.80

Ledgers

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$52.65/$54.55
100% Rag	45.65/ 46.40
75% Rag	35.15/ 36.10
50% Rag	29.40/ 30.05
25% Rag	26.15/ 26.80

Sulphite Bonds and Ledgers

White, 20 lb.

Bonds

	4 Ctns. per cwt.
No. 1	$17.50/ —
No. 2	16.65/ 16.75
No. 4	15.60/ 15.95

Ledgers

	4 Ctns. per cwt.
No. 1	$18.80/ —
No. 2	18.05/ —

White Book

Conversion Coated	Case per cwt.
No. 1	$19.75/$20.90
No. 2	19.25/ 19.65
No. 3	17.75/ 18.90
Machine Coated	
No. 1	16.40/ 16.65
No. 2	14.40/ 15.15
Uncoated	
No. 1 Antique (Watermarked)	16.40/ 17.90
Offset	15.15/ 16.65
A Grade E. F.	15.40/ —
A Grade S. C.	15.90/ 16.15
B Grade E. F.	14.90/ 15.15
B Grade S. C.	15.40/ 15.65

Twines

All Prices Nominal, F.o.b. Mill

(Soft Fiber)

Coarse Polished—India	.35½/	.36½
Fine Polished India	.41½/	.45
Unpolished—Paper Makers	.32¼/	.34½
Tube Rope	.33¼/	.35½
Wrapping	.36 /	.38¼
Cotton	.58 /	.60
Polished Cotton	.55 /	—
(Hard Fiber)		
Mex. Sisal	.21 /	.27
(American Hemp)		
Polished Hemp	.45 /	.48
Unpolished	.35 /	.37½

Rag Market

New Domestic Cotton Cuttings

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
White Shirt	$10.00/	$10.50
Unbleached Muslin	10.00/	10.50
Light Silesias	7.00/	7.50
White Back Blue Overalls	6.25/	6.50
Blue Overalls	6.00/	6.25
Fancy Shirt	4.50/	5.00
Percales	5.50/	6.00
Light Prints	5.50/	6.00
No. 1 Washables	2.75/	3.00
Bleachable Khaki	5.00/	5.50
Unbleachable Khaki	4.50/	5.00
Cottonades	4.25/	4.75
Lt. Flannelettes	7.00/	7.50
Men's Corduroy	3.50/	4.00
Women's Corduroy	3.00/	3.50

Old Domestic Cotton Rags

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
No. 1 Whites, Repacked	$4.25/	$4.75
No. 1 Whites, Miscellaneous	3.50/	4.00
No. 2 Whites, Repacked	2.75/	3.00

No. 2 Whites, Miscellaneous	2.00/	2.40
Cotton Pants & Overalls	2.50/	2.75
Thirds and Blues, Repacked	2.00/	2.25
No. 1 Roofing Rags	1.35/	1.45
No. 2 Roofing Rags	1.25/	1.35
No. 3 Jute Bagging	1.15/	1.20
No. 4 Brussels & hrd. Bck'd crpts.	.90/	1.00
Roofing Bagging	.80/	.95

New Foreign Cotton Cuttings
(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
New Dark Cuttings	
New Mixed Cuttings	
Light Silesias	prices
Light Flannelettes	
New White Cuttings	are
New Unbleached Cuttings	
Fancy Shirt Cuttings	nominal
Light Prints	
Bleachable Khaki, No. 1	
Unbl. Khaki, No. 1	

Old Foreign Rags
(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
No. 1 White Cottons	
No. 2 White Cottons	
No. 3 White Cottons	
No. 4 White Cottons	prices
Extra Light Prints	
Old Light Prints	
Med. Light Prints	are
Dutch Blue Cottons	
Checks and Blues	
Linsey Garments	nominal
Dark Cottons, European	
Dark Cottons, Egyptian	
Old Shopperies	
New Shopperies	

Bagging
(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny	$5.50/ $6.50
Domestic Gunny, No. 1	6.75/ 7.00
Heavy Wool Tares	6.50/ 7.00
No. 1 Scrap Bagging	4.75/ 5.00
Foreign Manila Rope	5.00/ 5.25
Domestic Manila Rope	5.00/ 5.25
Jute Strings	5.50/ 5.75
No. 1 Sisal Strings	4.50/ 4.75
Mixed Strings	1.15/ 1.30

PHILADELPHIA

New Domestic Cotton Cuttings
(Prices to Dealers, F.o.b. East'n Ship. Pt.)

	Per 100 lbs.
White Shirt	$10.00/$10.50
Fancy Shirts	4.50/ 5.00
Light Silesias	6.50/ 7.00
Unbleached Muslin	9.75/ 10.25
Light Prints	5.25/ 5.75
Washable No. 1	2.50/ 3.00
Blue Overall	5.75/ 6.25
Percales	5.50/ 6.00
Bleachable Khaki	4.50/ 5.00
Unbleachable Khaki	3.25/ 3.75
Men's Corduroy	3.75/ 4.25
Ladies' Corduroy	3.25/ 3.75
Cottonades	4.00/ 4.50

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. East'n Ship. Pt.)

	Per 100 lbs.
Mixed White	$2.75/ $3.50
Thirds and Blues Repacked	2.25/ 2.60
Cotton Pants & Overalls	2.25/ 2.50
No. 1 Roofing Stock	1.20/ 1.30
No. 2 Roofing Stock	1.10/ 1.15
Roofing Bagging	.90/ 1.00

Bagging
(Prices to Dealers, F.o.b. East'n Ship. Pt.)

	Per 100 lbs.
Old Manila Rope	$5.00/ $5.25
Foreign Gunny No. 1	6.75/ 7.00
Domestic Gunny, No. 1	6.75/ 7.00
Sisal Strings No. 1	3.00/ 3.50
No. 1 Scrap	4.00/ 4.50
No. 1 Jute Rope	5.50/ 6.00

BOSTON

Bagging
(F.o.b. Boston)

	Per 100 lbs.
Foreign Gunny	$5.00 /$6.00
Domestic Gunny	5.00 / 6.00
Domestic No. 1 Old Rope	5.00 / 5.25
Foreign No. 1 Old Rope	5.00 / 5.25
Mixed Strings	1.35 / —
Transmission Rope—Domestic	3.00 / 3.50
Jute Carpet Threads	— / 2.00
Bleachery Burlap	— / 9.00
Scrap Burlap—	
Foreign	4.00 / 4.50
Domestic	4.00 / 4.50
South America	5.00 / 5.50
Austr. Wool Pouches	— / 6.00
New Zealand Wool Pouches	— / 4.00
New Burlap Cuttings	6.00 / 7.00
Heavy Baling Bagging	7.50 / 8.00
Paper Mill Bagging	— / 3.50

Domestic Rags (new)
(F.o.b. Boston)

	Per 100 lbs.
New Light Prints	5.75 / 6.00
Fancy Percales	6.25 / 6.50
White No. 1 Shirt	10.00 /10.75
Light Flannelettes	— / 7.00
Canton Flannels, Bleached	— / 9.00
Underwear Cutters, Bleached	10.75 /11.25
Underwear Cutters, Unbleached	10.00 /10.25
Blue Overalls	6.00 / 6.50
Soft Unbleached	9.75 /10.50
Blue Cheviots	6.00 / 6.50
Fancy Shirt	4.00 / 4.50
Washable	3.00 / 3.25
Khaki Cuttings	5.00 / 5.25
Men's Corduroy	4.50 / 5.00
Khaki Canvas	— / 5.50
B. V. D. Cuttings	10.00 /10.25

Domestic Rags (old)
(F.o.b. Boston)

	Per 100 lbs.
No. 1 Whites, Repacked	$4.00 /$4.50
No. 1 Whites, Miscellaneous	2.50 / 3.00
Twos and Blues, Repacked	2.50 / 2.75
Cotton Pants & Overalls	2.50 / 2.75
No. 1 Roofing Stock	1.75 / 1.80
No. 2 Roofing Stock	1.50 / 1.55
Roofing Bagging	1.30 / 1.45

MATERIALS

Blanc Fixe

Prices firm. Supply adequate. Heavy demand. Currently quoted at $85.00 in bags, car lots, at works, 6 cents per pound, l.c.l., deld. By-product supply somewhat restricted. Quoted at $77.50 per ton, car lots, at works, 6 cents per pound, l.c.l., deld.

Bleaching Powder

Demand improved. Prices steady. Prices range from $4.50 to $5.00 per 100 pound drums, l.c.l., works.

Casein

Argentine flush season underway. Production good. Prices rising. U. S. supply light. ECA lets bids for $60,000 Austrian buy. Current prices on processed acid precipitated grades 22½ to 23 cents, imported grades 18¾ to 19 cents, f.o.b. shipping point, car lots.

Caustic Soda

Demand heavier. Stocks adequate for prompt shipment. Contract prices for 1950 unchanged. Solid caustic is reported at $3.05 per cwt. flaked and ground is quoted at $3.45 per cwt., in 400 pound drums, $3.95 per cwt. in 100 pound drums —car lots, at works; liquid 50 percent in tank cars at $2.40 per cwt.; liquid 73 percent in tank cars at $2.50 per cwt., at works.

China Clay

Demand strong. Supply of domestic and imported ample. Domestic airfloated filler quoted at $10 per ton, water-washed $11.00, car lots, f.o.b. mines. Coating clay is $16 to $30. Imported clays repriced to $15.20 and $28.35 short tons, export warehouse.

Chlorine

Demand strong. Supply condition tighter. Prices firm at present levels for 1950 contracts. Currently quoted at $2.40 per cwt. in single unit tank cars; at $2.70 to $3.90 per cwt. in multi-tank cars, f.o.b., works.

Rosin

Demand spotty. Prices fluctuate daily. Expect early decision on loan. Gum rosin in drums per 100 pounds net in car lots, f.o.b. Savannah, B, $5.75; G, H, I, K, $6.56; wood rosin, per 100 lbs., car lots, f.o.b. Savannah; B, $4.25; FF, $5.50.

Rosin Size

Demand steady. Supply good. Seventy percent gum and pale wood grades, tank cars, $5.65 to $5.75 f.o.b. southern shipping point.

Salt Cake

Improved demand noted. Domestic quoted at $22.00/$24.00, f.o.b. shipping point, freight allowed to destination.

Soda Ash

Demand moderate. Strike settlement restores normal supply. Current prices, car lots per 100 pounds; light ash in bulk, $1.00; in paper bags, $1.25.

Starch, Corn

Demand strong. Supply ample. Prices guaranteed against rises to Nov. 15. Pearl grade currently quoted at $4.72 per 100 pounds; powdered starch at $4.83 per 100 pounds; white corn dextrine at $5.99 per 100 pounds; car lots, f.o.b. Chicago.

Starch, Potato

Heavy paper and textile demand tightens supply. Idaho high grade quoted at $7.25 cwt. l.c.l., ex N. Y. whse. New production quoted at $5.00 cwt., car lots, f.o.b. shipping point. Maine new production stalled. No quotation.

Sulphate of Alumina

Demand steady. Prices firm. Supply good. The commercial grades are quoted from $1.50 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is $2.75 per 100 pounds in bags, car lots, at works.

Sulphur

Supply ample. Demand sustained at good level. Prices firm. Annual contracts are quoted at $18 per long ton, f.o.b. mines; $19.50, f.o.b. vessels, Gulf ports. Export price f.o.b. Gulf ports is $22.00 per long ton.

Talc

Demand continues far ahead of supply. Prices steady. Domestic grades are currently quoted at $23 to $28 per ton in 50-lb. paper sacks, car lots, f.o.b. mills; Canadian at $35 and up per ton.

Tapioca Flour

Supply liberal. Fair demand. Dextrinizable grades range from $9.00/$9.90 cwt. for superior high grades to $8.25/$8.75 cwt. for highs, on dock Atlantic and Gulf ports. Medium grades range from $7.00/$7.50 cwt. on dock, N. Y., and are tight in supply, prices firm.

Titanium Dioxide

Demand strong. Prices firm. Output threatened by steel strike. Anastase 19½c pound carload lots, 20c l.c.l., rutile, 21½c pound carload lots, 22½c l.c.l.; 50-pound bags, fo.b. plant, actual freight allowed.

IMPORTS — EXPORTS

IMPORTS AT NEW YORK
Week Ending October 29

Newsprint

N. Y. Journal American, Markland, Liverpool, N.S., 597 rolls.
N. Y. Herald Tribune, Markland, Liverpool, N.S., 1800 rolls.
N. Y. World Telegram, Markland, Liverpool, N.S., 532 rolls.
Brooklyn Eagle, Inc., Markland, Liverpool, N.S., 757 rolls.
Brooklyn Eagle Press, Inc., Markland, Liverpool, N.S., 59 rolls.
Herald Statesman, Inc., Markland, Liverpool, N.S., 42 rolls.
Richmond Newspapers, Inc., (Richmond, Va.), Markland, Liverpool, N.S., 1645 rolls.
Pepper Printing Co., (Richmond, Va.), Markland, Liverpool, N.S., 80 rolls.
Price & Pierce, Ltd., (Richmond, Va.), Markland, Liverpool, N.S., 165 rolls.
H. C. Craig Co., G.D.D., Donnacona, 330 rolls.
News Syndicate Co., Brott, Dalhousie, 8291 rolls.
R. A. Olsen, A.C.D., Donnacona, 306 rolls.
News Syndicate Co., Ethel Tombs, Gatineau, 580 rolls.
R. A. Olsen, G.T.D., Donnacona, 361 rolls.
H. C. Craig Co., Donpaco, Donnacona, 334 rolls.
Montmorency Paper Co., Rita Maersk, Botwood, 1510 rolls.

UNIVERSAL

GRINDING MACHINE

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The most universal grinding instrument for the paper industry.

concave and convex cutters
Cylindrical Grinding
Internal and External
Taper or Parallel
Tool Grinding
Surface Grinding

One setting up only per size of knife regardless of number to be ground.

EXCLUSIVE AGENTS
for
THE UNITED STATES

GAILLET & HARTIG CO., Inc.
250 Park Ave., New York

Madden Reeve Angel & Co., Inc., Trolleholm, Kotka, 435 rolls.
Montmorency Paper Co., Storfjeld, Botwood, 1385 rolls.
R. A. Olsen, Newscarrier, Donnacona, 308 rolls.

Wallpaper

J. Howell, America, Southampton, 1 cs.
Gardiner Trading Corp., Sally Maersk, Yokohama, 6 cs.
Hudson Shipping Co., American Inventor, London, 2 cs.
C. A. Haynes & Co., Parthia, Liverpool, 86 ctns.
Inter Maritime Forwarding Co., Parthia, Liverpool, 5 ctns.

Note Paper

Gimbel Bros., America, Havre, 3 cs.

Gummed Paper

B. F. Drakenfeld & Co., Parthia, Liverpool, 6 cs.

Serviettes

(———), Parthia, Liverpool, 11 cs.

Tissue Paper

B. F. Drakenfeld & Co., Parthia, Liverpool, 9 cs.

Waxed Paper

Meadows Wye & Co., American Inventor, London, 12 cs.

Filter Paper

H. Reeve Angel & Co., Inc., American Inventor, London, 19 cs.

Drawing Paper

H. Reeve Angel & Co., Inc., American Inventor, 2 cs.

Photo Paper

J. J. Gavin & Co., Queen Mary, Southampton, 4 cs.
Alco Photo Supply Corp., Queen Mary, Southampton, 3 cs.

U. S. IMPORTS WOODPULP

Preliminary, September, 1949

Item	Country of Origin	Short Tons
Mechanical		
Unbldchd.	Canada	16,602
	Sweden	54
	Finland	977
		17,633
Screenings	Canada	387
Chemical		
Sulfite, Unbldch.	Canada	19,047
	Sweden*	6,734
	Finland	406
		26,187
Screenings	Canada	160
Sulfite, Bldchd. Rayon & Special Chem. Grades	Canada	7,892
Other	Canada	21,976
	Sweden	1,394
	Norway	2,302
	Finland	1,927
		27,599
Sulfate, Unbldchd.	Canada	6,203
	Sweden	845
	Norway	50
	Finland	750
		7,848
Sulfate, Bldchd.	Canada	25,242
	Sweden	2,767
		28,009
Soda, Unbldchd. & Bldchd.	Canada	2,357
Totals, September	Canada	99,866
	Sweden	11,794
	Norway	2,352
	Finland	4,060
		118,072

* Being investigated by Census.

Dunster Trading Co., Sally Maersk, Hong Kong, 50 cs.

Paperhangings

R. E. Thibout, American Inventor, London, 13 bls.

Baryta Coated Paper

American Express Co., American Inventor, London, 66 drums.

Baryt Paper

W. Reimerdes, American Inventor, Bremen, 1 pkge.
W. Reimerdes, Black Falcon, Bremen, 1 pkge.

Boxboard

General Motors Overseas Operations, Mormacpine, Gothenburg, 32 bdls.

Miscellaneous Paper

H. Werner-Hansen, Stavangerfjord, 1 cs.
B. M. Heede, Stavangerfjord, Oslo, 21 bls.

Rags, Baggings, etc.

Chase National Bank, Mormacsaga, Santos, 12 bls. wool rags.
New England Waste Co., Mormacsurf, Santos, 110 bls. old bagging.
M. O. Schimmel, Mormacsurf, Recife, 135 bls. cotton waste.
Loumar Textile By Products, Exford, Venice, 50 bls. rags.
(———), Exford, Venice, 55 bls. old bagging.
(———), American Inventor, London, 82 bls. old jute bagging.
C. Comiter, Express, Genoa, 52 bls. cotton waste.
New England Waste Co., Exminster, Tuticorin, 550 bls. cotton waste.
New England Waste Co., Exminster, Cochin, 200 cotton waste.
New England Waste Co., Exminster, Bombay, 275 bls. cotton waste.
Brandwein Mazur Co., Exminster, Bombay, 200 bls. cotton waste.
C. Comiter, Exminster, Bombay, 179 bls. cotton waste.
Camden Fibre Mills, Exminster, Bombay, 40 bls. cotton waste.
Lush Cotton Products Co., Exminster, Bombay, 100 bls. cotton waste.
Schwabach & Co., Exminster, Bombay, 200 bls. cotton waste.
L. Gottlieb, Black Falcon, Antwerp, 70 bls. jute rags.
A. de Vries Trading Corp., Black Falcon, Antwerp, 51 bls. scrap bagging.
J. J. Rozendaal, Mormacpenn, Santos, 77 bls. old bagging waste.

Old Rope

(———), Parthia, Liverpool, 57 bls.

Casein

Eugenio Lang Inc., Bowplate, Buenos Aires, 314 bags (lactic).

Woodpulp

The Borregaard Co., Inc., Stavangerfjord, Oslo, 304 bls. unbleached kraft pulp, 1 ble. dry sulphite pulp, 182 bls. light & strong unbleached sulphite pulp.
Castle & Overton, Inc., Stavangerfjord, Oslo, 1375 bls. sulphite pulp.
Price & Pierce, Ltd., Stavangerfjord, Oslo, 125 bls. dry bleached sulphite pulp.
E. M. Sergeant Pulp & Chemical Co., Mormacpine, Gothenburg, 1 pkge. sulphite pulp.
(———), Trolleholm, Stockholm, 250 bls. dry chemical pulp.

Woodpulp Boards

Jay Madden Corp., Trolleholm, Kotka, 545 bls.

IMPORTS AT NEWARK

Week Ending October 29

Pulp Sales Corp., Trolleholm, Toppila, 5343 bls. prime extra strong unbleached sulphite pulp.
Pulp Sales Corp., Trolleholm, Kotka, 255 bls. prime bleached sulphite pulp, 4075 bls. prime light & strong unbleached sulphite pulp, 760 bls. prime unbleached kraft sulphate pulp, 2540 bls. white dry mechanically ground woodpulp.
Pagel Horton & Co., Inc., Oklahoma, Geffe/Skutskar, 1397 bls. woodpulp.

Bulkley Dunton Pulp Co., Oklahoma, Gefle/Skutskar, 1524 bls. dry sulphite pulp.
Stora Kopparberg, Corp., Oklahoma, Gefle/Skutskar, 1614 bls. dry woodpulp.
Pulp Sales Corp., Oklahoma, Kotka, 132 2nd quality unbleached kraft sulphite pulp, 765 bls. prime light & strong unbleached sulphate pulp.

IMPORTS AT NEWPORT NEWS

Week Ending October 29

Montmorency Paper Co., Rita Maersk, Botwood, 1575 rolls newsprint.

IMPORTS AT BOSTON

Week Ending October 29

1st National Bank of Boston, Andrew Jackson, Kobe, 35 cs. stencil paper.
Wonalancet Co., Black Falcon, Rotterdam, 253 bls. cotton waste.
P. A. Dunkel, Mormacpenn, Buenos Aires, 400 bags lactic casein.

IMPORTS AT PHILADELPHIA

Week Ending October 29

Madden Reeve Angel & Co., Inc., Trolleholm, Kotka, 1069 rolls newsprint.
Pulp Sales Corp., Trolleholm, Toppila, 133 bls. prime unbleached strong sulphite pulp, 260 bls. prime extra strong unbleached sulphite pulp.
Madden Reeve Angel & Co., Inc., Oklahoma, Kotka, 135 rolls newsprint.
Pulp Sales Corp., Oklahoma, Kotka, 830 bls. prime unbleached kraft sulphate pulp, 2536 bls. prime bleached strong sulphite pulp.
Pagel Horton & Co., Inc., Oklahoma, Gefle, 2500 bls. dry sulphite pulp.
Stora Kopparberg Corp., Oklahoma, Gefle, 1345 bls. dry woodpulp.
(———), Oklahoma, Gefle, 500 bls. prime bleached sulphite pulp, 750 bls. prime unbleached sulphate pulp.
Pagel Horton & Co., Oklahoma, Husim, 4226 bls. dry bleached sulphate pulp.

IMPORTS AT NORFOLK

Week Ending October 29

National City Bank, Express, Genoa, 89 bls. old waste bagging.
E. J. Keller Co., Inc., Black Falcon, Antwerp, 101 bls. paperstock, 101 bls. bagging.
A. de Vries Trading Corp., Black Falcon, Antwerp, 80 bls. jute waste.

IMPORTS AT BALTIMORE

Week Ending October 29

Pulp Sales Corp., Trolleholm, Toppila, 1075 bls. prime extra strong unbleached sulphate pulp, 560 bls. prime unbleached kraft sulphate pulp, 1040 bls. prime strong unbleached sulphite pulp, 1316 bls. ½ prime strong unbleached sulphite pulp, 526 bls. 2nd quality strong unbleached sulphite pulp.
Pulp Sales Corp., Trolleholm, Kotka, 510 bls. prime unbleached kraft sulphate pulp.
Brandwein Mazur Co., Exminster, Bombay, 200 bls. cotton waste.
Pagel Horton & Co., Inc., Oklahoma, Gefle, 762 bls. woodpulp.
(———), Oklahoma, Iggesund, 1000 bls. dry sulphite pulp.
Pagel Horton & Co., Inc., Oklahoma, Husum, 762 bls. dry bleached sulphate pulp, 356 bls. dry unbleached sulphite pulp.

IMPORTS AT WILMINGTON

Week Ending October 29

Delaware Pulp Co., Selma Thorden, Sheet Harbor, Nova Scotia, 13,097 bls. wet mechanical woodpulp.

U. S. Caustic Soda to Brazil

WASHINGTON—Caustic soda imports by Brazil, mostly from this country, amounted to 15,396 tons, and soda ash, 9,403 tons, according to late figures received here. The United States was the source of 11,305 tons of soda, and 4,653 tons of soda ash, valued respectively at $1,593,250 and $304,500.

Mexican Pulp Requires Prior Permits

MEXICO, D. F. — The Mexican government, by a recently published ministry of economy resolution added to the group of commodities requiring prior import permits the following: Cellulose pulp in undyed sheets for the manufacture of paper; cellulose pulp pressed in blocks; and cellulose sheets weighing more than 700 grams per square meter.

TRAFFIC . . . . .

Supp. 3 to NMFC Class. No. 10

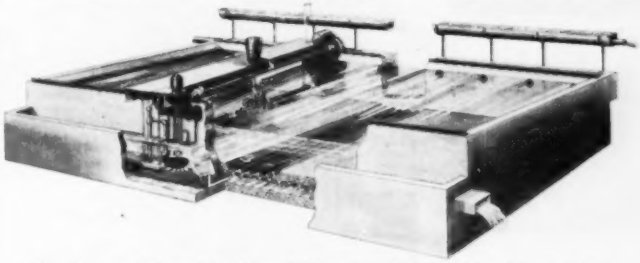
By EDWIN CHESTER HASTINGS

PITTSBURGH — *Supplement 3 to the National Motor Freight Classification No. 10* becomes effective on November 23 and contains a number of changes that were proposed in the National Classification Board's Docket No. 42 issued in June. Advance notice was given to the paper industry concerning the open hearings in Chicago, Washington, New York and Atlanta during the latter half of July and early Au-

"Cleans itself . . . while filtering!"

FOR
PAPER MILL
WATER SUPPLY
OR
WHITE
WATER . . .

The Hardinge
AUTOMATIC BACKWASH RAPID SAND FILTER



Here is a sand filter which cleans itself—automatically—with no interruption to the filtering operation. No shut-down or change-over while cleaning.
A compartmented filter bed and traveling backwash mechanism automatically cleans one compartment at a time—on a pre-determined time cycle or with increase in head pressure.
And . . . it's highly efficient, removing 75% to 80% of the suspended solids—90% or better if chemicals are added.
Write for Bulletin 46-14.

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gust (see *Paper Trade Journal*, page 42, July 7, 1949).

The Classification Board in Docket No. 42 proposed an amendment to Rule 5, Section 6; a change in Rule 30, these were approved and become effective in the Classification on November 23 (Supplement 3).

Rule 5, Section 6 (e). In the application of the increased charges provided in Section 6-c (relates to penalty charges of 20% LTL, 10% TL higher freight charges for improper preparation of freight shipments), such increased charges shall only apply to that portion of a shipment which does not comply with classification or tariff requirements. With respect to shipments moving under volume of truckload ratings, if the entire shipment does not comply with classification or tariff requirements, the increased charges shall be applied to the freight charges applicable to the entire shipment.

Rule 30. Unless otherwise provided in separate description of articles, a shipment containing articles the dimensions of which do not permit loading through the end of a vehicle body or doorway 7 feet wide by 6 feet high or which because of the size of the articles requires removal of a substantial or alterations in the body of the vehicle, shall be charged at actual weight at the rating provided herein, subject to the minimum charge of 4,000 pounds at the first class rate for the entire shipment, and subject to Rules 21 and 23 (relates to extra labor charges for bulky lading loading and unloading, capacity loads and other services) of the Classification. This rule will not apply when flat bed or tarpaulin covered vehicles are supplied by the carrier.

The motor classification does not attempt to provide a specific rating on every article offered for transportation. The practice to meet any condition is to group commodities under a generic heading and where this will not apply provision is allowed in the listed term "Not otherwise indexed." Some headings have caused confusion requiring clarification. For example, the classification lists an item in this manner "Baskets (Boxes) or Hampers." The use of the parenthesised term "(Boxes)" has been the cause of controversy in regard to shipments of boxes being described as "Basket (Boxes)." The latter term is superfluous and needed removal from the tariff. This has been done for the application of proper description to items in transit. In Supplement 3, "boxes" have been removed from the generic heading "Baskets or Hampers."

Under this heading are listed the following new items:

The ratings are, Class 3 (70 percent of the first class rate) in the East and West for less-than-truckload, Class 4 (55 percent) in the South. The required minimum weights are governed by Rule 34's "minimum weight factor." The truckload ratings are: Class 5 (about 35 percent) in the East and West, and in the South, Class 6 (27½–32½ percent).

Paperboard, NOI, flat or folded flat, in boxes or crates.

The latter listing of "paperboard" is rated higher, Class 2 (85 percent) for LTL, 24,000 pounds minimum weight for truckloads rated Class F-4-4, meaning 55 percent in the East, South and West.

Fibreboard, Paperboard or Pulpboard, NOI, without wooden frames, with or without covers.

Corrugated, flat, knocked-down flat, or folded flat. Other than corrugated (shipped as above).

LETTERS

Gentlemen:

We accept our congratulations on your continued prosperity. We are duly to-day in receipt of your published "Paper Trade Journal" of August 11, 1949.

As it was a long time since we read last your "Paper Trade Journal," that is the best guiding book of paper industry in the world, we were deeply moved. And we have much pleasure for your kindness that were treated the description as to Oji Paper Mfg. Co., Ltd. and three separate firms in your esteemed "Paper Trade Journal." Agreeably to dismemberment of Oji Paper

This is

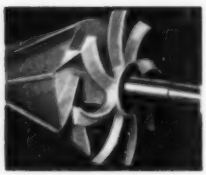
PULPING POWER

...in action!

This photograph (taken with stroboscopic light) can give only a hint of the tremendous agitating force produced by the Pulp Master.

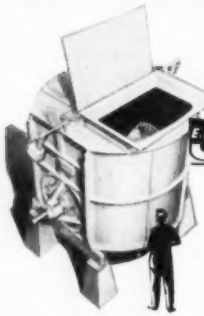
4-way action. Diagonal bars on the heavy rotor quickly break up whole charges, baled or loose. Cone shape of rotor forces stock against walls, where specially shaped impeller blades whirl and recirculate it. When pieces are sufficiently reduced they are rubbed between impellers and radial barred refining discs for thorough defiberization.

Complete disintegration of baled pulp, wastepaper, machine broke in 10 to 40 minutes. Efficient use of power and low maintenance cost make it extremely economical, too.



SEE IT IN ACTION

Four sizes, from 500 to 4,000 lbs. at 6½% density. Available for batch or continuous operation. Write for Bulletin EDJ-1019-A — or arrange to see the Pulp Master in action on your own stock.



E.D. Jones

PULP-MASTER

E. D. JONES & SONS COMPANY • PITTSFIELD, MASS.

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

Mfg. Co., Ltd., this time, we make progress in paper production as a member of Japanese Paper Mill and will make every effort in our power for the paper industry.

Thanking you for your kindness and soliciting your further favours for Fushiki Mill of Jujo Paper Mfg. Co., Ltd.

F. MURAMATSO
Mgr. of Fushiki Mill
Jujo Paper Mfg. Co., Ltd.
Toyama Pref., Japan

Dear Mr. McGinn:

First we would like to thank you for giving generous space on page 32 of your issue of October 13 in your good paper to our release regarding the introduction of Peripac and the Perry Machine to the trade. However, a quite serious error appears in the opening sentence. It states that The Sandy Hill Iron & Brass Works has acquired exclusive manufacturing rights on Peripac. This is not true. Sandy Hill has exclusive manufacturing rights for the Perry Machine which makes Peripac. The purchaser of a Perry Machine will be licensed to manufacture Peripac. Both the forming machine and the product are patented.

It would be greatly appreciated if you will carry a correction of this misstatement.

AGNES B. BALMER
The Sandy Hill Iron & Brass Works
Hudson Falls, N. Y.

AWARDS

ARMY AWARD MADE

N. Y. QM Purchasing Office

QM-30-280-50-141—Covering paper, duplicator—to Eastern Corp., Bangor Maine, for Canary 8 x 13½"—37,500 reams @ $.686—$.792, Pink 8 x 13½, 4,992 reams @ $.732—$.792, and White, 8 x 13½, 22,500 reams @ $.656—$.763. Directive quantity: 64,992. This procurement is for the U. S. Army.

AMERICAN PAPER AND PULP ASSOCIATION'S PRODUCTION RATIO REPORT*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1949		Corresponding Weeks—1948	
Sept. 17	94.6	Sept. 18	97.5
Sept. 24	95.9	Sept. 25	99.8
Oct. 1	97.2	Oct. 2	99.6
Oct. 8	96.6	Oct. 9	100.3
Oct. 15 (Revised)	97.9	Oct. 16	101.8
Oct. 22	101.1	Oct. 23	100.3

COMPARATIVE MONTHLY SUMMARIES

1948						1949	
Jan.	100.1	May	100.5	Oct.	99.1	Jan.	94.6
Feb.	99.8	June	95.7	Nov.	97.1	Feb.	92.8
Mar.	100.8	July	85.3	Dec.	87.1	Mar.	89.1
Apr.	100.8	Aug.	96.8			Apr.	85.1
		Sept.	91.8	Year Avg.	96.2	May	82.7
						June	78.6
						July	‡72.2
						Aug.	‡88.0
						Sept.	‡90.3

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1942	1943	1944	1945	1946	1947	1948	1949
Year to Date	92.0	88.5	88.3	88.9	101.0	103.9	97.1	87.1
Year Average	90.4	87.8	88.1	89.4	101.1	104.3	96.2	

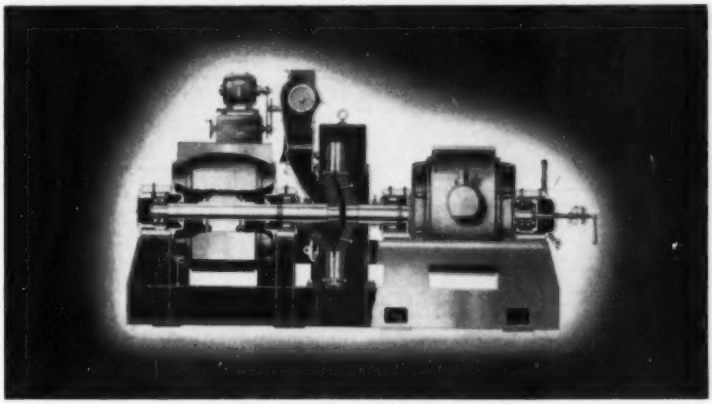
PAPERBOARD OPERATING RATIOS†

Current Weeks—1949		Corresponding Weeks—1948	
Sept. 17	92	Sept. 18	97
Sept. 24	91	Sept. 25	94
Oct. 1	94	Oct. 2	96
Oct. 8	92	Oct. 9	96
Oct. 15	94	Oct. 16	97
Oct. 22	94	Oct. 23	95

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1948	99	100	102	102	100	94	81	92	91	96	94	84	95
1949	88	85	79	79	78	75	64	86	87				

* All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.



SECTIONAL VIEW OF BAUER DOUBLE-DISC PULPER

Bauer PULPER

PRODUCES LONG FIBERS

The Bauer machine makes a desirable pulp for liner because it brushes and works upon the diameter of the fiber rather its length.

This quotation is from an article describing the equipment in a pulp and board mill. It emphasizes a characteristic of the Bauer Pulper; viz., the production of long fibers.

Bauer Pulpers are used for processing raw, steamed, and cooked chips from soft and hard woods; groundwood rejects; sulphite and soda pulps; kraft knotter and screen rejects; waste paper of all kinds; bagasse, licorice root, and bamboo fibers; straw and many other agricultural residues.

Ask for complete information. If you have special pulping and refining problems, you are invited to utilize our laboratory facilities.

The BAUER BROS. CO., Springfield, Ohio

CLEARING HOUSE

HELP WANTED

SALESMEN WANTED

Resident salesmen wanted to represent large eastern mill manufacturing comprehensive line of toilet tissue, paper napkins, paper towels and many other specialty items that are sold in volume to paper jobbers, wholesale grocers and chain stores. Write giving all details regarding experience, salary requirements and other information that will be helpful in determining qualifications. Territories open in Pennsylvania, Indiana, Michigan, Illinois, Wisconsin, Iowa, Missouri and Kentucky. Write Box 49-515, care Paper Trade Journal. N-17

ENGINEER FOR SALES SERVICE of pulp treating machinery newly introduced to the trade. Must have working knowledge of pulp and paper machinery and processes, be capable of supervising the installation and operation of special equipment, and be willing to travel. Should have about eight years actual experience in pulp and paper laboratories and operations. Age preferable 30 to 36. Applicant will be expected to possess attitude and talents which will enable him to make contributions to and work smoothly with a functional group devoted to development and sales of paper mill machinery. Correspondence held confidential. Address:

CURLATOR CORPORATION
565 Blossom Road,
Rochester 10, New York N-17

Wanted: Laboratory technician and chemist for Specialty Coated Paper Mill. Experience with dyestuffs, pigments, adhesives, plastic coatings, etc., essential. Furnish record of previous employment, salary expected etc. Address Box 49-521 care Paper Trade Journal. N-10

MAN WHO KNOWS FIBRE and stock preparation processes to handle sales correspondence with paper and pulp mills regarding process and machinery newly introduced to the trade. Should have about ten years experience in mill laboratories or operations, preferably several different mills. General understanding of mill problems is essential. Sales flare with letter writing aptitude is required. Age preferably 30 to 36. Applicant will be expected to possess attitude and talents which will enable him to make contributions to and work smoothly with a functional group devoted to development and sales of paper mill machinery. Correspondence held confidential. Address:

CURLATOR CORPORATION
565 Blossom Road
Rochester 10, New York N-10

SALARIED POSITIONS $3,500—$25,000

If you are considering a new connection communicate with the undersigned. We offer the original personal employment service (29 years recognized standing and reputation). The procedure, of highest ethical standards, is individualized to your personal requirements and develops overtures without initiative on your part. Your identity covered and present position protected. Send only name and address for details.

R. W. BIXBY, INC.
117 Dun Bldg., Buffalo 2, N. Y.
TF

HELP WANTED

MEN WANTED
Positions Open

Sulphite superintendent; general superintendent large mills making pulp as well as paper; sales manager paper bags; production manager for bonds, ledgers, vellums, and text papers for the printing trade; superintendent wet machine board mill; quality control man; controller; chemists and chemical engineers; salesman for ledgers, bonds and other fine papers; sales engineer for technical specialties with contacts in Maine and New Hampshire; master mechanics; plant engineers; mechanical engineers; tour bosses Cylinder machine mills on folding carton board, roofing and flooring felts; machine tenders and back tenders.

We invite correspondence (confidential) with executives seeking positions and with employers seeking new personnel.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington Street, Boston, Mass.
N-3

Plant Engineer for two machine mill, one straight fourdrinier and one cylinder machine. Now making .009 corrugating medium on the fourdrinier also kraft and light weight specialties etc; on cylinder boxboard lath papers. (For Gypsum Companies), paper board specialties, etc., using waste paper only, must have paper making experience, also work with and train millwrights, layout, planning, design, installation, supervision, coordination, maintenance, etc., must be thoroughly versed in electric, steam and water power, apply Wallcomsec Paper Mills Incorporated P.O. North Hoosick, New York, Attention James J. "Shorty" Andrews. TF

WANTED—Mechanical engineer for plant layout, machine design and process engineering, capable of design and drafting work. Permanent position with advancement for qualified man. Paper or board mill experience desirable but not essential. Give complete information in first letter including references and salary requirement. Address Box 49-532 care Paper Trade Journal. D-29

CHEMIST

Our Paperboard Mill, specializing in the manufacture of Folding Grades, is seeking and experienced Chemist to assist in controlling formulae and improving our quality. An exceptional opportunity is offered to the right man. In your reply give complete background of experience and your desired compensation. Address Box 49-507, care Paper Trade Journal. N 3

WANTED — DE-INKING SUPERINTENDENT—Experienced in installation and operation of complete de-inking plant from beginning to end. Complete resume and salary desired please. Address Box 49-493 care Paper Trade Journal. N-3

WORKING MASTER MECHANIC — For one machine Folding Board Mill. Good pay. Steady work. Outline full qualificatoins and experience. Address Box 49-500 care Paper Trade Journal. N-10

MACHINE TENDER—Fully experienced on all folding grades. Good steady job with excellent opportunity in one machine mill. Address Box 49-517 care Paper Trade Journal. N-17

WANTED CONVERTING FOREMAN — Familiar all phases converting toilet tissue, towels, napkins. Northern New York Mill. Full resume please. Address Box 49-514 care Paper Trade Journal. N-17

HELP WANTED

SALESMAN for Metropolitan New York, desired by national bag manufacturer. Salary basis. Prefer man with multi wall experience. All replies strictly confidential. Address Box 49-540 care Paper Trade Journal. N-1

EXECUTIVE SECRETARY WANTED by a trade association of converted paper products. Principal qualifications are industry background combined with administrative ability as well as public relations and sales promotion experience. Applications will be kept strictly confidential. Address Box 49-529 care Paper Trade Journal. N-3

WANTED — Mechanical Engineer, college graduate with experience in paper industry, qualified to be Assistant Chief Engineer in supervising engineering department. Location Massachusetts. Address Box 49-534 care Paper Trade Journal. N-17

WANTED—PLANT ENGINEER to take charge of electrical, steam and mechanical maintenance in two machine mill. Send complete resume giving experience and salary expected to Box 49-536 care Paper Trade Journal. N-17

SITUATIONS WANTED

TECHNICAL DIRECTOR—Especially skilled in process cost reduction, desires to apply 18 years experience in paper and paper treatment for a progressive management. Midwest location preferred. Address Box 49-512 care Paper Trade Journal. N-3

MECHANICAL ENGINEER—With very extensive experience in the pulp, paper and board industry over 28 year period. Desires connection with moderate sized organization planning changes to improve capacity and quality. Qualified for power, maintenance, design, construction and production supervision. Address Box 49-488 care Paper Trade Journal. N-3

ENGINEER—25 years experience developing pulp and paper mill machinery. Now employed as head of engineering department. Good personality, married, excellent reference. Replies held confidential. Address Box 49-495 care Paper Trade Journal. N-10

ACCOUNTANT invites correspondence, desires change. 20 years paper industry. Capable serving as Comptroller-Chief Acc., etc. Know how to install and control costs and administer budgets. Address Box 49-491 care Paper Trade Journal. N-3

COATED PAPER CHEMIST—25 years experience, color work, coating dept., production. Past two years resin emulsion coatings. Desire position as coating and converting assistant superintendent or superintendent. Excellent health, progressive, references. Address Box 49-524 care Paper Trade Journal. N-17

PLANT ENGINEER — University trained, Electrical, Mechanical, Chemical Engineer, with several years practical experience in Plant Engineering and construction, seeks position of more responsibility as ass't. master mechanic or Plant Engineer. Address Box 49-531 care Paper Trade Journal. N-3

CYLINDER MACHINE TENDER experienced on corrugating, test liner and kraft specialties, desires work as machine tender, back tender or millwright. 30 years experience in running cylinder machine. Address Box 49-537 care Paper Trade Journal. N-10

ASSISTANT TO MANAGER — Graduate Chemist with fifteen years experience in boards, wrapping, toilet and facial tissue. Thorough knowledge of converting mill operation and technical control. Now employed but invites correspondence with cost conscious executive seeking to establish better quality control. Address Box 49-539 care Paper Trade Journal. N-10

Many are the times "the boys" have literally jumped thru the hoop to help a mill in distress —and it is always a pleasure to do it Quick replacement of a bearing, a broken journal, a beater part, a drive gone haywire is our business when a mill is down and hair starts graying. Yes, Sir. it can be found at Shartle or Black's or Dilts, or up at Fleck. Depends on what you want or where you are located. In emergencies, phone or wire per quick-action phone list on your wall—or just phone.

Mill in Distress

The BLACK-CLAWSON COMPANY

HAMILTON, OHIO

Divisions:
SHARTLE BROS. MACHINE CO., MIDDLETOWN, OHIO
DILTS MACHINE WORKS, FULTON, NEW YORK
Western Sales Office: Mayer Bldg., Portland, Oregon
Associate: ALEXANDER FLECK LIMITED, Ottawa, Canada
Subsidiary: B-C International, Ltd., 16 Catherine Place, Victoria London S. W. 1, England

SITUATIONS WANTED

MILL SUPERINTENDENT — Available at once, on all grades of paper. Good knowledge of Pulp Preparation. Capable of producing quality and production at minimum cost. References. Address Box 49-538 care Paper Trade Journal. N-10

PLANT MANAGER—Board and paper conversion; employed; seeks opportunity in company needing cost-minded executive with proven production record and excellent labor relations history. Address Box 49-528 care Paper Trade Journal. N-24

FOR SALE

FOR SALE—114" Slitter & Rewinder. Two sets slitting knives. Can be seen in operation in Brooklyn, by appointment. Address Box 49-533 care Paper Trade Journal. N-3

FOR SALE

GOOD VALUES—NEW & USED

60" Hamblet Sheeter with Erie layboy and 10 roll backstand, double deck, with shafts and chucks, also 4 sets of slitters. A fine value.

34" Camachine No. 6 Slitter.

32" Hobbs shear cut Slitter, rebuilt like new.

39" Chandler & Price Automatic Power Paper Cutter.

New 44" National Auto. Power Cutters and 36" National Hydraulics.

Baling Presses, both hand and power.

Motors, both A.C. & D.C. for any purpose.

THOMAS W. HALL COMPANY, Inc.
120 West 42nd St., New York 18
(Plant at Stamford, Conn.) TF

FOR SALE

PAPER BAG MFG.

3 Machines (very little used)
Must be moved by Purchaser
PRICE $20,000

CONTACTS, INC.
58 W. 47th in Hotel Westworth LU 2-1267
M-3

CHESTNUT WET LAP FOR SALE

8 Air Dry Tons per day of pure chestnut wet lap 60% air-dry. Available for immediate shipment. Write for details and sample.

CHAS. A. SCHIEREN COMPANY
Bristol, Virginia N-3

FOR SALE

1—Plain Extractor Roll 28" diameter x 150" face.
1—Suction Extractor Roll 22" diameter x 150" face.

BARKERS
1—9 Carthage Disc Barker.
BEATERS
1—800 lb. Beater—iron tub.
BEATER (Laboratory)
1—Dilts Iron Tub Laboratory Beater. Beater roll 14" diameter x 10½" face, including motor.
BRASS FELT ROLLS
9—6" diameter x 140" face (with bearings).
BREAST ROLLS
1—120" x 14".
1—[illegible]" x 14".
4—114" x 14".
CALENDER STACKS
1—72" 5 roll Calendar Stack.
1—76" 7 roll calender stack (heavy duty).
CHIPPERS
2—96" Murray 4 knife Chippers.
1—96" 10 knife Carthage Chipper with 200 h.p. motor.
CRUSHER & HAMMERMILL
1—Murray Chip Crusher.
1—Jeffrey Hammermill.
CYLINDER MOULDS
1—36" diameter x 80" face.
1—39" diameter x 72" face.
1—36" diameter x 79" face.
DECKERS
1—Decker—48" diameter x 84" cylinder mold
3—Pusey & Jones Deckers Cylinder molds 42 x 146, anti friction bearings, including rubber covered couch rolls.
3—IMPCO 35½" face x 30" diameter cylinder molds.
DRIVES
2—#4 Reeves Drives.
1—#2 Reeves Drive.
1—Smith & Winchester mortise gear Drive.
1—Foote—7¾ h.p. Speed Reducer (Ratio 240 to 1)
2—Smith & Winchester Mortise Gear Drives with 20" diameter clutches—Ratio 8 to 1.
6—Enclosed drives. 75 h.p., ratio 8 to 1. Complete.
DRIVES (Angle)
1—General Machine Company 16 : 1.
1—Philadelphia 50:1 — 1 h.p. — 1200 r.p.m.
3—Philadelphia 21½:1 — 3 h.p. — 1200 r.p.m.
V-BELT DRIVE
1—21¾" diameter x 7½" face, 5 groove.
1—16½" diameter x 7½" face, 5 groove. (With clutch)
DRYERS
14—48" diameter x 112 face.
30—36" diameter x 102" face.
7—24" diameter x 48" face.
9—36" diameter x 72½" face, with gears and bearings.
1—48" diameter x 91" face.
2—25" x 120" (Baby Dryers).
2—36" x 143".
1—24" x 130".
1—60" diameter x 47" face.
3—36" diameter x 90" face.
3—36" diameter x 96½" face.
1—48" diameter x 70" face.
2—48" diameter x 92" face.
1—48" diameter x 82" face.
EMBOSSER
1—84" Hudson Sharp Toilet Embosser. Spare engraved roll.
FELT ROLLS
20 Felt Rolls—Brass covered 8" to 12" diameter.
FLAT SCREENS
1—6 plate Shartle Flat Screen.
2—12 Plate Murray Dunbar Flat Screens.
2—14 plate Sandy Hill. (Never used.)
6—12 plate IMPCO Flat Screens.
FRICTION CALENDERS
2—30" Waldron.
2—38" Waldron.
HYDRAULIC PRESS
1—Watson-Stillman Co. (Platen 24" x 24").
JORDANS
2—Noble and Wood—Mammoth Type.
1—Emerson Jordan—25 to 30 tons capacity —iron plug including new spare iron plug.
MISCELLANEOUS
1—Caustic Mixer.
MOTORS
2—5 h.p. ball bearing—splash proof motors —3/60/440. 1160 r.p.m.
1—¼ h.p. ball bearing—splash proof gearhead motor—3/60/440. 1725 r.p.m.
1—2 h.p. ball bearing—splash proof gearhead motor—3/60/440. 1725 r.p.m.
PRESSES
4 Sections of presses approximately 24" diameter. Rubber and Bronze.
PRESS ROLLS
Various sizes.
PRINTING MACHINE
1—3 color 40" Rotary Cottrell Printing Machine, A-1 condition, provision for 2 more colors.
PULLEYS
Various cone and assorted pulleys.
PULPERS
1—Jones Pulper. Complete with motor and drive.
1—Noble & Wood Pulper—Iron Tub.
PUMPS
2—Weil Pump Co.—100 g.p.m.—100 P.S.I. including 15 h.p. motors (new equipment).
1—Bell & Gossett—300 g.p.m.—120' head—including 15 h.p. motor.
1—Goulds Sump Pump—50 g.p.m.—20' head —including motor.
Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.
REEL
1—72" Beloit Reel.
ROLLS
590—Brass tube-steel tube—rubber covered iron rolls—various sizes.
ROTARY SCREENS
1—#2 Bird Rotary Screen.
1—#2A Bird Rotary Screen.
SAVEALLS
1—Saveall—48" diameter x 84" cylinder mold.
3—Pusey & Jones Savealls. Cylinder molds 42 x 146, anti friction bearings, including rubber covered couch rolls.
SCREEN PLATES
20 Plates cut .018
10 Plates cut .008
Also other cuts and slots in stock
SHEETER
1—136" Moore & White Sheeter, duplex, with layboy.
1—74" Downingtown Duplex.
SLITTERS AND WINDERS
1—72" Cameron—Type 28-8-7-D (shear cut).
1—80" Cameron—Type 24-2L.
1—42" Cameron—Type 40-4-B.
1—42" Cameron—Type 24-2A.
1—42" Cameron—Type 9-5.
1—42" Cameron Constant Tension with pneumatic control
1—62" Cameron—Type 6 (Shear cut).
1—115" 2 drum Waldron
SQUEEZE ROLL
1—Rubber Squeeze Rolls, 20¾" diameter x 102" face.
STOCK PUMPS
1—10 x 20 Shartle Duplex.
2—7 x 16 Sartle Duplex.
Numerous other Centrifugal Stock Pumps. Advise as to your requirements.
SUCTION BOXES
5—Suction Boxes, 82" drilled face x 6" wide.
SUCTION COUCH ROLL
1—24½" diameter x 160" drilled face.
1—Sandusky 14⅜" diameter x 103" drilled face.
SUCTION PRESS ROLL SHELL (Only)
1—29¾" diameter x 134" drilled face.
SUPERCALENDER STACK
1—54" 9 roll supercalender stack, completely rebuilt including motors, etc.
TABLE ROLLS
40—Table Rolls 82" face x 3" diameter.
TOILET and TOWEL MACHINES
2—Dietz 81" Toilet & Towel Machines.
TRIMMER
1—56" Smith & Winchester—Undercut.
TUNNEL DRYERS
2—Proctor & Schwartz Tunnel Dryers, 10 ton and 5 ton capacity.
TURBINE
1—130 h.p. Westinghouse Type C-Gear Turbine (Recently rebuilt).
VACUUM PUMPS
2—H7 Nash Vacuum Pumps.
1—L5 Nash Vacuum Pump.
VAT
1—Iron end Vat only, for decker or saveall, suitable for cylinder mold 36 x 130.
YANKEE DRYERS
2—8' diameter x 175" face
3—Yankee Dryers 84" diameter x 52, 53 and 62" face.

We are always in the market to purchase your surplus or idle machinery. What have you to offer?
Wanted Cylinder and Fourdrinier Machines (complete mills).

Paddy Ross, Pres. **J. J. ROSS COMPANY** Ben Kurs, Treas.
250 Frelinghuysen Ave. Tel.—Bigelow 3-3720 Newark 5, N. J.

TELEPHONE HUMBOLDT 2-2177

CABLE ADDRESS: JACROSS

ROSS PAPER MACHINERY CO.

265 PASSAIC STREET
NEWARK 4, N. J.

CONVERTING PAPER MAKING EQUIPMENT

NEW, USED, REBUILT PAPER AND PULP MACHINERY

AMERICA'S LARGEST BUYERS OF PAPER MAKING MACHINERY

ANILINE PRESS
1—New Lockport 4 color Aniline Press.

BEATERS
2—Valley Iron 750 lb. Iron Tub—Bronze filled.

BLOWERS
5—Blowers and Mill Exhausters

CALENDER ROLLS
46 Chilled Iron Rolls—Assorted sizes.

CALENDER STACKS
1—104" face 5 roll stack, with drive
1—76" face 7 roll with drive.
1—76" face 3 roll with drive.
1—112" face 7 roll.
1—82" face 5 roll Sandy Hill.

CONVEYOR
1—18½ ft long x 30" wide—with motor.

CYLINDER MOLDS
1—IMPCO 40" diameter x 84" face
1—36" diameter x 136" face Cylinder molds with vats, couches—ball bearing.
2—74" face x 36" diameter.
1—134" face x 36" diameter, with stainless steel shafts.
1—78" face x 56" diameter.

DRIVES
1—GC. Reeves Drive. 40-50 h.p.—Ratio 4 to 1.
1—Cleveland 50 h.p. Ratio 10 to 1. Right angle.
1—Oo Level 65 h.p. Ratio 2.24 to 1—615 r.p.m.
1—Falk 60 h.p. Ratio 13 to 1, R.p.m. 1470-113. Herringbone gears.

DRYERS
2—74" face x 28" diameter with gears.
5—143" face x 48" diameter.
6—124" face x 48" diameter.
4—80" face x 36" diameter.
1—77" face x 48" diameter—with gear.
1—44" face x 36" diameter.
18—78" face x 36" diameter, complete with 2 deck frames, gears, bearings and steam joints. Drives, line shaft and felt rolls are available.
1—78" face x 18" diameter with gears and bearings.
1—129" face x 18" diameter—Baby Dryer.
2—42" face—36" diameter—bearings and gears.
6—96" face x 48" diameter.
95—128" face x 42" diameter.

ELECTRIC PAPER MACHINE DRIVES
1—G. E. 55/110 with G. E. Generator, Exciter and Controller.
1—G. E. 80/100 with G. E. Generator, Exciter and Controller.

EXTRACTOR ROLLS—SUCTION
1—Downingtown—64" face x 17" diameter with bearings & stand.

FLAT SCREENS
1—New Sandy Hill 12 plate, with wrapper and V-belt drive.
1—Montague 6 plate—ball bearing.

FOURDRINIER SECTIONS
1—P & J 156" x 80 ft. ball bearing. Complete from inlet to 22" diameter suction couch. Brass and Rubber covered table rolls. 6 Brass Suction Boxes operated at 1000' per minute.
1—M & W 82" x 49" complete with 3 suction boxes, shake, 3 suction presses and size press.

HEAD BOXES
1—118" Bronze Lead Lined. Beloit.

INLETS
1—Voith Inlet for 151" wire with 28" slice. Complete, including drive.
1—96" All bronze—adjustable.
1—141" Beloit complete with distributor roll.

JORDANS
1—22 Miami Ball Bearing with spare plugs.
2—Jones Standard, with motor bases and couplings.
1—Jones Standard—ball bearing direct connected to 150 h.p. G.E. 440 volt motor.
1—23 Miami, for motor drive.
1—Jones Majestic, roller bearing—stainless steel filling—for motor drive.
4—Jones Majestic with base and couplings—bronze filled. 2 sets of new bronze fillings.
3—23 Appleton with base and coupling—bronze filled.
1—Gillon Horse 23—direct connected 75 h.p. Stainless steel ¼" filling.
1—22 Smith & Winchester—Ball bearing.

LABORATORY EQUIPMENT
1—Cavagnaro 2 roll 12" calender. Steam fitted rolls.
1—16" Coating Machine.

MOTORS
1—Fairbanks Morse — 50 h.p. — 495 r.p.m. — 220/440/360.
1—Reliance 25 h.p. ball bearing, 550 v., 3 phase, 60 cycle—1750 r.p.m.
1—General Electric 150 h.p.—440 v.—3 phase—60 cycle—600 r.p.m.

PULLEYS
30—Split cast iron tapered Pulleys.

PULP EQUIPMENT
1—Jigger—1 deck—vibrating screen.
1—Mills & Merrill 217 Pulpwood chipper.
1—9' Carthage Disc Barker
1—66" Carthage Ball Bearing Chipper—4 knife.

PULPERS
2—22 Lansaye Pulpers—with drives.

PUMPS
44—Centrifugal Pumps, open & closed impellers. Direct connected or Belt Driven. Extended base for motor. Assorted capacities and heads. Most used less than one year. Also new Goulds Pumps.

REELS
2—Beloit 118" two bowl Reel.
1—Beloit 132" two bowl upright reel.
1—Beloit 116" two bowl upright reel.

1—P&J 120" Ball Bearing Fourdrinier Machine. 60" dryers—suction press and suction couch—Spiral Bevel Gear Drives.
1—Putsey & Jones 82" Fourdrinier Machine Complete.
1—7 cylinder 120" Board Machine, 82 Dryers, 42" diameter. Complete with all auxiliaries.
1—6 cylinder 132" Board Machine, 67 Dryers, 42" diameter. Complete with all auxiliaries.

ROLLS—PRESS, COUCH, etc.
32—Press rolls, brass and rubber covered.
14—Couch rolls, brass and rubber covered.
250—Brass and steel carrying rolls.

ROTARY SCREENS
2—Jones Leitbwalk—cylinder 84" face x 36" diameter.
1—22 Leith-walk-ball bearing.
1—23A Bird with motor. Used less than 1 year.

SCREW PRESSES
2—Valley Voith Screw Presses Size 3A with new spare sets of plates.

SHEETERS
1—Beloit Duplex 104", complete with drive.
1—Hamblet Duplex—136".
1—Moore & White 64" Sheeter with Moore & White layboys.
1—12 roll Hamblet heavy duty backstand.
1—8 roll heavy duty backstand.

SHREDDERS
1—American 37" Hammermill, anti-friction bearing.
2—Sprout Waldron Cutters — type F-11 — 30" Knives. Used 30 days.

SLITTERS & WINDERS
2—Putsey & Jones 100" high speed slitters and rewinders.
1—New 50" Cameron Model 6.
1—Beloit 2 drum 125" with 8 slitters.
1—Langston 60" 21 shear cut slitters. Rewinds to 42" with 5 h.p. 220-440 volt motor.

STUFF PUMPS
1—Shartle 8½x12 Triplex—Silent Chain Drive.

SUCTION COUCH ROLLS
—Millspaugh 22" diameter x 138¾" suction face.
1—Millspaugh 22" diameter x 138" drilled face.
1—Beloit 102" drilled face x 22" diameter. Anti friction bearings.
1—Millspaugh—14½" diameter x 93" drilled face.

SUCTION PRESS ROLLS
1—Downingtown 25" diameter x 109" drilled face.
1—Beloit 22" diameter x 105" drilled face for direct drive. Anti friction bearings.

SUPER CALENDER
3—7 roll 62" face.
1—7 roll 68" face.
1—7 roll 56" face.

TRIMMERS
1—84" Seybold Precision with motor and five spare knives.

VACUUM PUMPS
1—M2 Nash for motor drive.

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HP	Make	Wdg	Spd.	Type
500	G.E.	S.R.	450	I M
300	G.E.	S.R.	450	I M
300	West.	S.R.	600	CW
200	G.E.	S.C.	900	I K
150	G.E.	Sya.	690	ATI
150	G.E.	S.C.	885	KT562Y
150	Westgh.	Sya.	450	3 Brg.
150	West.	S.C.	900	C8
125	West.	Sya.	277	
120	Cr. Wh.	S.R.	290	
100	G.E.	S.R.	450	I M
75	West.	S.C.	885	M8
60	West.	S.C.	1160	CS506
50	A.C.	S.C.	1750	
50	Al.Ch.(new)	S.C.	(Hi-Torq.)1130	
35	G.E.	S.C.	1150	I K
30	Vert. G.E.	S.C.	1150	KT526
30	Al. Ch. (new)	S.C.	(Hi-Torq) 1685	ARH
25	C.Wh.	S.C.	900	SC504
25	500 v. West.	S.C.	1750	CS365
25	Cr.Wh.	S.C.	865	
25	Cr.Wh.	S.R.	580	1210
20	Al. Ch. (new)	S.C.	(Hi-Torq) 1685	ARWHH
20	West.	S.C.	1750	CS343F
HP	Make	Wdg	Spd.	Type
15	West	S.C.	1750	CS828
15	L.A.	S.C.	3600	Fr. 324
10	West.	S.C.	570	CS368C
10	West.	S.C.	870	CS434C
10(6)	West.	S.C.	1200	CS570C
10	West.	S.C.	1750	CS571G
7½	Comm.	S.C.	865	P328
7½	West.	S.C.	3440	CS254Y
5	West.	S.C.	580	CS554
5	West.	S.C.	1160	554
5(2)	West.	S.C.	1760	CS
5/1½	L.A.	S.C.	540/1000	2556
5	Master	S.C.	1125/37	PA
5	Burke	S.C.	420	EM2
3	West.	S.C.	1160	C8
3	West.	S.C.	1750	
2	West.	S.C.	800/1200	CS334
2	550v.West.	S.C.	1750	CS334

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2—700 HP West. 2300 v. Syn. Line Starters.

TRANSFORMERS
6—75 KVA. G.E. 2300v-115/230v.
3—100 KVA G.E. 2300v.—230/460v.
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1—Packer 10 plate flat screen.
1—Packer 8 plate flat screen.
1—Glens Falls Rotary Screen, practically new.

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1—Dilts 1500# beater, bandless roll, 62" dia., 48" face. NEW bars and woods, iron tub.
1—E. D. Jones beater complete, Roll 50" x 44" with cast iron tub. 1000# Capacity.
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1—E. D. Jones 1800# beater. NEW iron tub. Roll 65" dia., 52" face, bars like new.
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1—Continuous breaker beater Roll 65" x 52". Special bearings and stands.

JORDANS

2—No. 1 Emerson Jordans, NEW fillings designed for direct connecting or belt driving.
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2—Standard Wiener refiners, new plugs and shells, designed for direct connecting.
1—E. D. Jones Majestic Jordan cluster fillings.

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3—8 x 16 Black-Clawson Triplex Pumps.
2—8 x 18 Beloit duplex pumps.
50—Centrifugal pumps various sizes, stock circulating and pressure.

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1—84" Bagley & Sewall wet machine complete with drive.
1—74" Bagley & Sewall wet machine (No. Drive).

PRESSES

2—Complete press sections for 110" face machine. 1—rubber covered, 1 brass covered roll.
1—Complete press for 66" face machine. Both rolls 1" new rubber, 16" face.

DRYERS

20—New cast iron dryers 36" dia., 84" face. Tested and passed for 50# W.P.
20—Black-Clawson 36 x 90 complete with stack, frames, gears and bearings.
13—Rice-Barton Fales dryers 36" dia., 66" face.
5—Pusey & Jones 48" x 160" C.I. Dryers.

SUCTION ROLLS

1—12" dia., 88" face Downingtown suction felt roll.
1—16" dia., 86" face Beloit suction drum roll.

NEW ROLLS

6—5⅛" dia., 98" face NEW table rolls.
20—3" dia., 84" face NEW table rolls.
10—6" dia., 96" face NEW brass felt rolls.
5—7" dia., 108" face NEW brass felt rolls.
10—7" dia. 120" face NEW brass felt rolls.
2—8" dia., 120" face NEW brass felt rolls.

SHEETERS & TRIMMERS

1—102" Hamblet sheet cutter with M&W layboy.
1—88" Hamblet sheet cutter with M&W Layboy.
1—104" Beloit extra heavy duplex sheeter with M&W Layboy.
6 and 12-roll backstands with frictions.
1—34" Trimmer. Good condition, very reasonable.
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1—110" Moore & White 4-drum winder.
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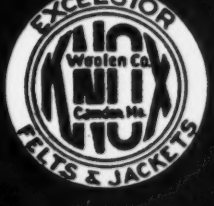

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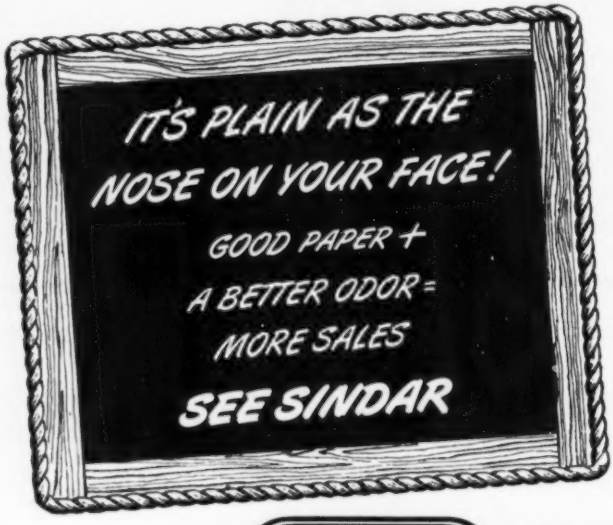

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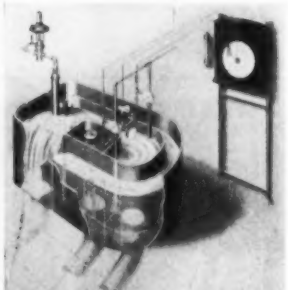

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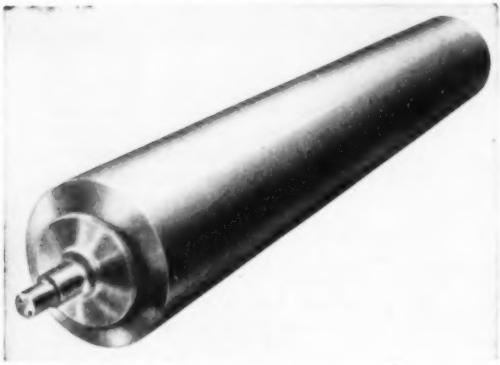

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Dow Chemical Company
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Gottesman & Co.
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Hooker Electrochemical Co.
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Monsanto Chemical Company
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Niagara Alkali Company
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Virginia Smelting Co.
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The Dow Chemical Company
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General Dyestuff Corp.
Monsanto Chemical Company
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Wyandotte Chemicals Corp., J. B. Ford Division

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Cochrane Corp.

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The Brown Instrument Co.
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DIRTEC
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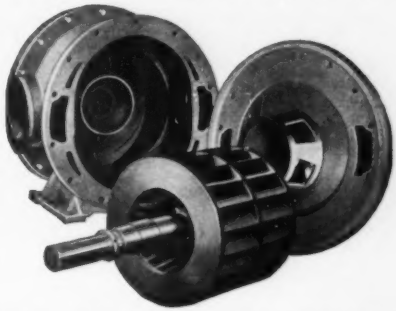

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Downingtown Mfg. Co.
Hudson Sharp Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

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Bahr Brothers Mfg. Co.
Bauer Brothers Co.
Dilts Machine Works
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Morden Machines Co.
Murray, D. J., Mfg. Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
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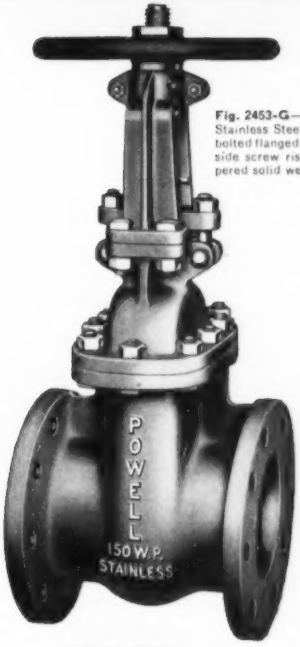

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Fig. 1832—200-pound Stainless Steel Gate Valve with screwed ends, screwed-in bonnet and inside screw rising stem.

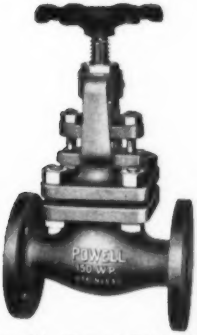
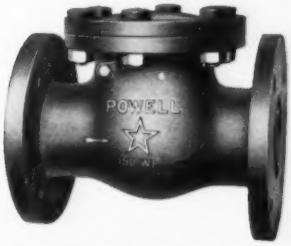


Fig. 1969—150-pound Stainless Steel Gate Valve with flanged ends, outside screw rising stem, bolted flanged yoke-bonnet and tapered solid wedge.



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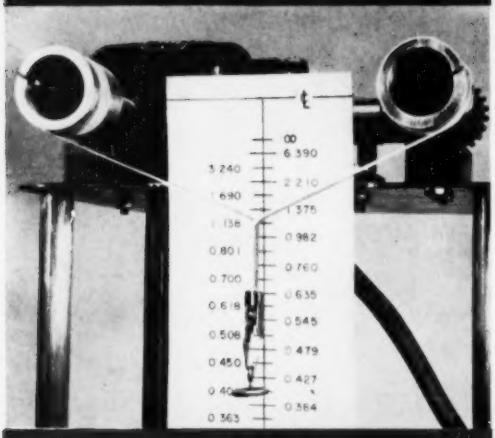

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